

MASSACHUSETTS
COMMISSION FOR THE BLIND.

SEVENTH ANNUAL REPORT.



FOR THE YEAR ENDING NOV. 30, 1913.

BOSTON:

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
32 DERNE STREET.

1914.

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Portrait of Mrs. Jean Christle Root, who became blind at the age of sixty-seven and has since not only mastered sewing by touch, and the effective use of the typewriter, but has written, rewritten and published her book on Edward Irving. Mrs. Root, now in her eightieth year, contributes to this report "Lessons learned in Blindness."

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APPROVED BY
THE STATE BOARD OF PUBLICATION.

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The Commonwealth of Massachusetts.

COMMISSION FOR THE BLIND.

JAMES P. MUNROE of Boston, <i>Chairman</i> ,	. . .	Term ends 1917.
MISS ANNETTE P. ROGERS of Boston,	. . .	Term ends 1914.
MRS. SAMUEL P. McQUAID of Springfield,	. . .	Term ends 1915.
WALTER B. SNOW of Watertown, <i>Secretary</i> ,	. . .	Term ends 1916.
EDWARD E. ALLEN of Watertown,	. . .	Term ends 1918.

Regular meetings of the commission are held on the second and fourth Wednesdays of the month, at 3 Park Street, Boston.

Telephone, Haymarket 831.

Private branch exchange connecting central office, the Cambridge workshops and the James A. Woolson House, listed under Massachusetts Commission for the Blind.

Agents.

LUCY WRIGHT, *General Superintendent*.

CHARLES W. HOLMES,¹ *Superintendent of Training and Employment for Men*.

LOTTA S. RAND, *Superintendent of Training and Employment for Women*.

BRENDA F. MATTICE, *Field Worker*.

HENRY COPLEY GREENE, *Field Worker for Conservation of Eyesight*.

CATHERINE BRANNICK, *Special Agent on Defective Eyesight*.

JAMES T. COLE, *Superintendent of Cambridge Rug Shop and "Wundermop" Shop*.

H. FRANCES LEWIS, *Manager, Woolson House Industries*.

GEORGE S. MANSFIELD, *Distributing Agent*.

HELEN F. O'LEARY, *Accountant*.

¹ Blind or partially blind workers.

I. CENTRAL OFFICE.

The central office is located at 3 Park Street, Boston.

Applications may be made at the central office: (1) for information in regard to the various general and special agencies already organized which may be utilized for the benefit of the blind; (2) for employment; (3) for educational and industrial aid; (4) for the sale of products; (5) for the co-operation in care of children's cases not already provided for by the Nursery for Blind Babies and the Perkins Institution; and (6) for information and co-operation in non-medical work for prevention of blindness and conservation of eyesight.

II. EMPLOYMENT.

There are three general divisions into which the possibilities of employment of the blind naturally fall: (1) among the seeing, either along professional lines, in offices, in shops or otherwise; (2) in shops for the blind; (3) in home industries or individual occupations.

Applications for employment will be carefully considered and every effort made to secure suitable work for the applicant. In the first case, personal effort of one of the commission's representatives will be made on behalf of the applicant. In the second, a position will be secured when possible in some workshop for the blind. In the third, suitable training may be provided by the commission, at its discretion and under such conditions as it shall determine. (See "Shop Schools and Industrial Classes.")

III. SALESROOMS FOR HOME AND SHOP PRODUCTS OF BLIND LABOR.

Salesroom, 3 Park Street, Boston; summer salesroom, Handicraft Shop, 9 Bridge Street, Manchester-by-the-sea.

All articles made in the home must be submitted for inspection and must come up to reasonable standards as regards style and workmanship. Original applications for the consignment of home work should be made at the commission's office.

FLORENCE CUMMINGS, *Commission's Agent.*

IV. CAMBRIDGE INDUSTRIES.

Cambridge Rug Shop and "Wundermop" Shop, 686 Massachusetts Avenue (Central Square).

JAMES T. COLE, *Superintendent.*

HELEN F. MORTON, *Head Clerk.*

K. R. SMITH,¹ *Foreman, Mop Shop.*

JOHN PENDERGAST,¹ *Mop Agent.*

¹ Blind or partially blind workers.

Woolson House industries for women, 277 Harvard Street (corner of Inman). Hand-weaving, chair rescating, etc.

H. FRANCES LEWIS, *Manager*.

MARY E. BANNISTER, *Assistant*.

V. "M. C. B." SHOPS.

CHARLES W. HOLMES,¹ *Superintendent*.

L. W. KILBOURN,¹ *Sales Agent*.

E. D. STICKNEY,¹ *Canvasser*.

Cambridge. — 34 Valentine Street.

J. C. EWING, *Manager*.

T. C. LEUTZ,¹ *Foreman*.

Pittsfield. — 30 Eagle Street.

HENRY WILLS,¹ *Managing Foreman*.

NELSON A. FOOT, *Clerical Assistant*.

Lowell. — 213 Dutton Street.

IRA W. GOLDTHWAIT, *Manager*.

HENRY G. BURKE,¹ *Foreman*.

Worcester. — 194 Front Street.

M. D. FITZGERALD, *Manager*.

DANIEL SCOTT,¹ *Foreman*.

Fall River. — 28 Borden Street.

JOSEPH A. DENNIS, *Manager*.

JOSEPH A. BOUTIN,¹ *Foreman*.

Mattress making, chair rescating and broom making are the chief industries of these five shops, which employ only men.

VI. SHOP SCHOOLS AND INDUSTRIAL CLASSES.

Instruction in chair seating and mattress making is given to a limited number of pupils, with a view to home or shop employment in these industries. Training is given in rug, mop and broom making, and in art fabric weaving, as vacancies occur in the various workshops and as the business expands.

¹ Blind or partially blind workers.

REPORT.

His Excellency the Governor and the Honorable the Members of the Council.

GENTLEMEN: — The Massachusetts Commission for the Blind begs leave to submit the following report, covering the fiscal year ended Nov. 30, 1913. Under the act creating it (chapter 385, Acts of 1906) the commission considers itself as charged with the duty of seeking out and registering new cases of blindness, of following up cases already known, of furthering measures aiming to prevent blindness, of promoting the industrial efficiency of blind men and women, and of co-operating with them in the work of making that efficiency contribute to self-support. A special duty laid upon the commission by the Legislature of 1913 was to investigate "the condition of persons in this Commonwealth with seriously defective vision who are not now provided for, either by any school or by the Massachusetts Commission for the Blind." This inquiry is the subject of a separate report made on January 10, and is reprinted herewith (page 31).

CHANGES IN PERSONNEL AND IN LOCATION.

In the latter part of 1912 Mrs. John T. Prince, because of pressure of other duties, felt compelled to resign from the commission, and in February, 1913, the Governor and Council appointed to succeed her Mrs. Samuel P. McQuaid of Springfield. Because of her long experience in education and her success in training classes for salesmanship, Mrs. Prince was a most valuable member of the commission, and the Commonwealth was fortunate to secure her services, even for a limited time.

At the request of the Governor and Council, and to oblige the Massachusetts Highway Commission, which greatly needed

additional room, the Commission for the Blind vacated, in March, 1913, the offices on the third floor of the Ford building, which it had for some years occupied, and removed to its present location, 3 Park Street. In making this change it was possible to carry out the plan which had long been in mind of bringing the central office and the salesroom together. The salesroom, therefore, was withdrawn from 383 Boylston Street, where for four years it had been conducted in conjunction with the salesroom of the Perkins Institution for the Blind, and was established in one of the three rooms secured for the commission on the second floor of 3 Park Street. The commission desires to put upon record its high sense of obligation to the Perkins Institution for the cordial and generous spirit in which the officers and agents of that institution shared, often at great inconvenience to themselves, the Boylston Street salesroom. The more central location and the larger opportunity for display have already resulted in a considerable increase in sales.

In this connection it should again be noted that the goods carried in the Park Street salesroom are supplied mainly by the women employed at Woolson House, and by home-workers whose products are handled upon both direct orders and consignment. The rugs and mops made by blind men at the shop, 686 Massachusetts Avenue, Cambridge, are for obvious reasons sold principally through jobbing and retail houses in a number of the larger cities throughout the United States; while the brooms manufactured at the "M. C. B." shops for men, in Cambridge, Pittsfield, Lowell, Worcester and Fall River, are disposed of chiefly through the activities of blind and partially blind canvassers.

SUMMARY OF ACTIVITIES, DEC. 1, 1912, TO NOV. 30, 1913.

Through the generous interest of the Legislature of 1913 there was appropriated for the furtherance of the work for the blind during the year ended Nov. 30, 1913, \$40,000 for the general purposes of registration, training, prevention, etc., and \$25,000 for the furthering of industries.

These sums thus appropriated have produced, statistically speaking, the following results: —

1. *Direct Money Returns to the Blind.* — Direct returns are shown as follows: —

Regular salaries and piecework wages paid blind employees outside of Cambridge industries. This total covers one superintendent, two central office assistants and all local shop employees,	\$23,965 45
Earnings of blind consignors through salesrooms,	1,873 57
Salaries, wages, commission and royalty on sales, paid to blind employees in Cambridge industries,	14,704 31
Earnings of blind at outside work secured through commission (minimum estimate),	4,000 00
	<hr/>
	\$44,543 33

2. *Numbers.* — The commission has registered during the fiscal year 1912-13, 1,149 persons, 415 of whom were reported for the first time. In addition, 356 cases of defective eyesight have been registered in connection with the special study. Special service has been rendered to about 600 blind individuals, many of whom have been helped substantially in more than one way, as follows: —

1. Training has been given or expenses provided during training to	26
2. Regular employment has been given to, or secured for,	112
3. Temporary work has been given to, or secured for,	10
4. Home industry, fostered by loans, equipment, use of canvasser, use of salesroom, etc., for	122
5. Shop industry or canvassing, fostered by provision of guide, to	50
6. Information and advice of more than a passing nature about medical care, special education, occupations, relief, etc., has been given to	230
7. Reported to other agencies for blind,	172
8. Reported to general agencies,	160
9. Recreations, symphony and other concerts, outings, vacations, etc., have been given by others through the commission to	218

3. *Special Service offered to Other Agencies.* — For special studies, printed information and practical co-operation in non-medical work for prevention of blindness and conservation of eyesight, see pages 16-18, and appendix pages 91 and 92.

FINANCIAL REPORT.

Herewith is given in some detail a summary of the expenditure of the appropriation granted by the Legislature, together with the revenue received from the various shops. One large item of expenditure for traveling and incidentals this year may be regarded as an especially satisfactory investment, as it has been used not only for guidance for shop workers, but for guidance and travel of blind men and women working as canvassers or agents in different parts of the State. These persons having shown capacity for salesmanship require, in order to succeed, a seeing person to guide them from place to place. As a rule, they canvass for articles made by the blind, so that a double service is performed through their employment. The expenditure for the year past for this purpose has been \$3,029.37, an increase of \$1,782.16 over the previous year.

The most striking increase in revenue comes from the "M. C. B." Shops, and as noted elsewhere, this has resulted in considerably increased returns to the employees. The adoption of a strict system of collection in the "M. C. B." shops at Pittsfield, Lowell, Worcester and Fall River has also brought good results.

Although, owing to the general business depression, the income from the industries has been only slightly increased, earnings of the blind have been substantially equal to those of the preceding year, and the financial statement shows a healthy condition, for with quick assets of \$40,534.54, and with plants worth, after allowing for depreciation, \$4,719.35, the industries have liabilities of only \$2,034.87.

Maintenance of Industries, 1912-13.

RECEIPTS.

Appropriation from State,	\$25,000 00
Income from finished products,	53,232 29
Equipment sold,	12 90
Interest on bank balance,	72 58
	<hr/>
	\$78,317 77

DISBURSEMENTS.

Merchandise purchases,	\$35,706 26
Purchase of equipment,	470 30
Blind labor on goods manufactured,	12,324 49
Seeing labor on goods manufactured,	2,165 50
	<hr/>
	\$50,666 55

General Operating Expenses.

To blind:—

General assistants and janitor work,	\$959 42
Commissions on sales and royalties to blind inventors,	1,420 40
	<hr/>
	\$2,379 82

To seeing:—

Supervision, accounting work and dis- tribution of goods,	7,463 19
Rent of 3 shops and 2 sales- rooms,	\$2,489 04
Tuition of blind at special school,	250 00
	<hr/>
	2,739 04

Incidental expenses:—

Sundries,	\$156 80
Supplies,	975 50
Teaming and express,	1,449 67
Equipment expense,	404 88
Advertising,	425 77
Travel,	1,035 75
Postage,	126 62
Cleaning,	103 10
Coal,	175 24
Laundry,	28 40
Lighting and motor service,	72 09
Portion of general telephone expense,	363 72
	<hr/>
	5,317 54
	<hr/>
	17,899 59

		\$68,566 14
Inventory of Nov. 29, 1913,	\$30,205 51	
Inventory of Dec. 1, 1912,	34,392 67	
	<hr/>	4,187 16
Valuation of plants, Nov. 29, 1913,	\$4,719 35	
Valuation of plants, Dec. 1, 1912,	4,727 95	
	<hr/>	8 60
		<hr/>
		\$72,761 90

Financial Statement of Industries, Nov. 29, 1913.

ASSETS.	
Cash,	\$2,813 70
Accounts receivable,	7,515 33
Goods on hand,	30,205 51
Equipment of plants,	4,719 35
	<hr/>
	\$45,253 89
LIABILITIES.	
Accounts payable,	2,034 87
	<hr/>
Net assets, Nov. 29, 1913,	\$43,219 02

Industrial Summary.

YEAR.	State Appropriation.	Number reached.	Number materially benefited.	Number given Industrial Training. ¹	Number employed regularly in Commission's Shops. ²	Earnings of Blind in Commission's Shops.	Total Sales.
1906-07,	\$40,000 00 ³	698	464	57	68	\$3,353 82	\$12,612 97
1907-08,	40,000 00	676	392	77	84	13,769 98	18,754 79
1908-09,	45,000 00	784	380	40	86	19,502 52	34,669 40
1909-10,	45,000 00	818	400	39	96	25,050 53	53,029 50
1910-11,	50,000 00	876	464	42	90 ⁴	29,544 92	67,331 98
1911-12,	57,781 04	2,081 ⁵	584	28	99	35,183 17	54,592 56 ⁶
1912-13,	65,000 00	1,149	600	26	112	40,543 33	55,556 24

¹ Number trained is determined largely by prospects for employment under supervision, and is no indication of number needing training.

² Part-time workers have been averaged for full time and added.

³ State appropriation July 1 to Nov. 30, 1906, amounted to \$20,000.

⁴ Decrease due to change in plan of using blind agents.

⁵ Includes 839 unchecked additions from federal census of 1910.

⁶ Actually an increase, since brooms have been transferred to general account and material manufactured that was not purchased.

Comparison of Salaries and Wages paid to Seeing and Blind.

To blind: —		To seeing: —	
Manufacturing,	\$12,324 49	Manufacturing,	\$2,165 50
Operating,	2,379 82	Operating,	7,463 19
	<hr/>		<hr/>
	\$14,704 31		\$9,628 69

Total "M. C. B." Wages.

	1911-12.	1912-13.	Increase.
Pittsfield,	\$3,075 78	\$3,683 42	\$607 64
Lowell,	2,411 76	2,922 14	510 38
Worcester,	1,667 12	2,032 57	365 45
Fall River,	1,595 52	1,621 64	26 12
Cambridge,	5,965 17	9,503 42	3,538 25
	<hr/>	<hr/>	<hr/>
	\$14,715 35	\$19,763 19	\$5,047 84

Increased Appropriation.

The commission appreciates the many and increasing claims made upon the State for carrying forward work for its handicapped and dependent citizens. It is careful, therefore, not only to scrutinize every expenditure, but also not to ask for increases unless those advances seem absolutely necessary for the ultimate good of the Commonwealth. The industries are now on so well established a basis that it does not seem necessary to ask this year for any increase in the appropriation made for their maintenance; but in the general appropriation there is need, on the lowest possible estimates, of an increase of \$7,000. This increase has therefore been asked for. About \$400 of it is required to meet the advanced rental at 3 Park Street; about \$1,400 is needed to cover the normal increase in general expenses of maintenance, of training and of travel, due to the growth of the business and other activities of the commission; about \$4,000 is required not only to provide the new machinery needed for the increasing number of workers, but also to permit of larger cash advances to the growing "M. C. B." shops, in order that they may have a working capital with which to maintain sufficient supplies of raw material and to meet their merchandise bills promptly; while the balance of the advance asked for — about \$1,200 — is for the employment of an additional field worker.

THE GENERAL APPROPRIATION.

The appropriation of \$40,000 for the general purposes of the commission is expended upon: —

(a) The maintaining of the central office at 3 Park Street, Boston, as a bureau of information and employment, and as a general clearing house of resources for the blind.

(b) A campaign for the prevention of unnecessary blindness and for the conservation of eyesight among school children, industrial workers and others subjected to unusual strain upon or hazard to their sight.

(c) Part of maintenance of a permanent salesroom and of sundry temporary sales agencies for disposing of the output of the Woolson House industries and of work made in their homes by blind men and women.

(d) The training of men and women, through a system of apprenticeship, for productive skill in certain industries proved to be available for the blind.

(e) The maintaining of the so-called "M. C. B." shops on Valentine Street, Cambridge, and in Pittsfield, Worcester, Lowell and Fall River, in which men are enabled, under supervision, to earn money by making and renovating mattresses, reseating cane furniture and making brooms.

(f) The placing of blind persons, whenever possible, in industries or other occupation in competition with the seeing.

(g) The practical encouragement, by loans of capital, of stock in trade, or of tools and apparatus, of persons without sight desirous of earning a living by canvassing or other forms of productive activity.

(h) The study of industrial occupations not now followed by the blind, but which might be made available for certain groups or individuals among them.

The Central Office.

The work of the central office as a clearing house and bureau of information and employment has been described so fully in previous reports as to make superfluous any extended statement at this time. Every day is more than filled with the work of answering inquiries, holding interviews, planning for individuals and seeking pertinent information, as well as with that of supervising the varied activities carried on throughout the State. In connection with the removal of the central office, the commission sent out not only an announcement of the change of address and of what the central office is prepared to offer, but also an illustrated folder, suggesting types of schooling, of work and of recreation for the blind of all ages. These were sent to every name on the register except those in certain institutions, it being considered important that this information should reach the families of the blind, as well as the blind themselves.

Prevention of Blindness and Conservation of Eyesight.

The commission, through its agents and with the effective co-operation of State and local boards of health and others, has carried forward its campaign regarding blindness caused by ophthalmia neonatorum, and is glad to report continued progress. As is made clear in the report of the field agent for conservation of eyesight (page 64), ceaseless vigilance concerning this disease is necessary, and the needless waste of eyesight which it entails can be brought to an end only by continued education of the public, and by continued raising of the standard of medical supervision and practice. The powers

of the health authorities should be strengthened by necessary legislation; and in all cities and towns having any large proportion of ignorant, or of foreign, population, maternity clinics should be maintained.

While ophthalmia neonatorum seems the most needless, because it is the most easily preventable, of diseases destructive to vision, it should not be forgotten that its ravages are quite secondary to those of syphilis; while glaucoma, phlyctenular keratitis and several other diseases are responsible for much eye destruction and disablement which with proper care could be averted. The Commonwealth should not be satisfied until every force in the State, legislative and administrative, public and private, is working in full and intelligent co-operation to stamp out all cases of unnecessary loss, or partial loss, of sight.

A practical step which would contribute much to conservation of eyesight in the State would be taken if medical inspection in the public schools were extended to include ophthalmologists' examination for all school children, with seriously defective eyesight and if in all institutions, both for children and adults, under State control, regular visits of examination and treatment could be made by an ophthalmologist ranking as a member of the institution staff, rather than by a consulting oculist as is now the custom, where any special care of the eyes is undertaken. Only in this way can errors of diagnosis be avoided which in certain cases are likely to result in eye disablement and even blindness.

The commission has been fortunate in receiving the continued co-operation of the State Board of Health in the campaign against ophthalmia neonatorum and in securing the hearty co-operation of the State Industrial Accident Board in the work of preserving eyesight endangered by industrial occupations. By the wording of that part of the workmen's compensation law which concerns impairment of vision, and by the interpretation of that law, as well as by the distribution of circulars concerning industrial dangers to eyesight, the Board has gone far in the campaign for reducing loss of eyesight due to industrial accidents and so-called industrial diseases.

The following reprints have been issued during the year:—

Reprint No. 15. — From New Hampshire Health Day: "Your Eyes are your Breadwinners — take Care of them," by Henry Copley Greene.

Reprint No. 16. — "Preventable Blindness — a Challenge to the Professions," by Henry Copley Greene. A paper read by invitation before the ophthalmological section of the American Medical Association, Minneapolis, 1913.

SUGGESTED LEGISLATION.

In order to strengthen the hands of the State Board of Health the commission recommends the passage of the following act which has been unanimously approved by the council of the Massachusetts Medical Society: —

AN ACT RELATIVE TO THE BETTER CONTROL OF OPHTHALMIA NEONATORUM.

Be it enacted, etc., as follows:

Section forty-nine of chapter seventy-five of the Revised Laws is hereby amended by adding after the word "necessary," in the eighteenth line, the following words: — including as far as may be possible, consultation with an oculist and the employment of a trained nurse, — so as to read as follows: — *Section 49.* A householder who knows that a person in his family or house is sick of smallpox, diphtheria, scarlet fever or any other infectious or contagious disease declared by the state board of health to be dangerous to the public health shall forthwith give notice thereof to the board of health of the city or town in which he dwells. Upon the death, recovery or removal of such person, the householder shall disinfect to the satisfaction of the board such rooms of his house and articles therein as, in the opinion of the board, have been exposed to infection or contagion. Should one or both eyes of an infant become inflamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or other attendant having charge of such infant to report in writing within six hours thereafter, to the board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling and redness of the eyes and unnatural discharge exist. On receipt of such report, or of notice of the same symptoms given by a physician as provided by the following section, the board of health shall take such immediate action as it may deem necessary, including as far as may be possible, consultation with an oculist and the employment of a trained nurse, in order that blindness may be prevented. Whoever violates the provisions of this section shall be punished by a fine of not more than one hundred dollars. But the board of health of a city or town may in its discretion, disinfect or fumigate all such premises as in the opinion of the board have been exposed to any infectious or contagious disease, at the expense of the city or town, and may employ any proper and competent person or corporation for the purpose of such disinfecting or fumigating.

In connection with the study of defective eyesight, the report upon which appears on page 31, the commission recommends the following resolve and act: —

A RESOLVE TO AUTHORIZE THE MASSACHUSETTS COMMISSION FOR THE BLIND TO CONTINUE ITS INVESTIGATION INTO THE MATTER OF DEFECTIVE EYESIGHT.

Resolved, That there shall be allowed and paid out of the treasury of the commonwealth a sum of twenty-five hundred dollars to be expended by the Massachusetts commission for the blind for the salary and expenses of those who are making a study of defective eyesight problems and doing the work of vocational guidance in individual cases of adults, under the direction of the Massachusetts commission for the blind.

AN ACT TO AUTHORIZE THE MASSACHUSETTS COMMISSION FOR THE BLIND TO ESTABLISH DEFECTIVE EYESIGHT CLASSES IN CERTAIN CITIES.

Be it enacted, etc., as follows:

SECTION 1. The Massachusetts commission for the blind is hereby authorized to establish, in co-operation with local school authorities, defective eyesight classes in such city or cities of the state as may be deemed expedient for experimental purposes, provided such city or cities make appropriations equal in amount to the state's appropriation for this purpose; said appropriation to be used for the services of ophthalmologist, salary of special teacher, and expenses of supervision and special equipment; the state board of education and the commission for the blind to supervise jointly the experiment.

SECTION 2. To carry out the provisions of this act there may be expended annually from the treasury of the commonwealth a sum not exceeding twenty-five dollars.

SECTION 3. This act shall take effect upon its passage.

And as bearing upon the problem of incapacity and blindness (see page 71 of this report), the commission recommends the following resolve: —

A RESOLVE TO PROVIDE FOR A JOINT INQUIRY INTO THE ADVISABILITY OF ESTABLISHING INSTITUTIONAL OR OTHER FORMS OF SPECIAL CARE OR RELIEF FOR THOSE BLIND OF THE COMMONWEALTH NOT NOW ADEQUATELY PROVIDED FOR.

Resolved, That the Massachusetts commission for the blind and the state board of charity are hereby empowered and directed jointly to investigate, and to report to the general court on or before the third Wednesday of January next, upon the advisability of establishing institutional or other forms of special care or relief for those blind of the commonwealth not now adequately provided for. There shall be allowed a sum not ex-

ceeding two thousand, five hundred dollars for the purpose of carrying out this inquiry, to be paid out of the treasury of the commonwealth and expended through the commission for the blind.

Salesroom and Special Sales.

The removal of the salesroom from Boylston Street was especially fortunate this year, since that street has been almost impassable during the construction of the subway. Moreover, as has already been suggested, the bringing together of the central office and the salesroom has proved of great practical convenience to both blind and seeing visitors. The business advantage of the location is indicated by increased sales of 60 per cent. over the same months last year. This increase is due in part to the convenient situation and in part to better opportunities for display and advertising. The experiment of selling home-work products through able blind canvassers has been a means of giving employment to blind women, and of interesting patrons in outside towns, and the added cost of selling by this method has thus far been more than compensated by these results.

The "M. C. B." Shop System.

The commission is glad to report a steady growth of receipts and continuity of employment at all the "M. C. B." shops. Their development is indicated by an aggregate increase of wages paid to the blind in 1912-13, over those paid in 1911-12, of \$5,046.84. A large part of this should be credited to the "M. C. B." shop on Valentine Street, Cambridge, where the aggregate increase in wages has been \$3,538.25. This growth at Cambridge has come about not only through greater sales (largely through canvassing by blind or partially blind agents) of the ordinary house and factory brooms, but also through the development of three special types of broom made under patents secured by Mr. Pendergast, a totally blind man, and licensed by him to the Association for Promoting the Interests of the Adult Blind for the use of the commission. These brooms are of three types: the "Efficiency," especially valuable for the sweeping of floors in mills; the "Endurance," useful for heavy work on cemented floors, cellar bottoms, sidewalks, boiler rooms, etc.; and the "Track," used by the Bay State



1. SALESROOM, 3 PARK STREET, BOSTON.

Seeing worker demonstrating use of household supplies stitched on the machine or hand sewed by blind women in their homes. Among the novelties are the pail-rest, small braided mat for cleaning flat iron, and net bag in which to dry nice handkerchiefs or fine laces.

2. A SECTION OF THE NEW SALESROOM AT 3 PARK STREET.

Showing braided rings, basketry, cabinet work, knitted mittens and hand-woven fabrics.

Street Railway for keeping the tracks and switches clean. The first two of these brooms are partly encased in sheet iron, and all are made with heavy, strong fibers, such as bamboo and "Alberta." (See Appendix IV., pages 93-98.)

At Worcester the business of the year has been so good as to justify removal of the shop from a comparatively small room to one in the same building and on the same floor nearly three times as large and better suited for the work. Through the interest of the landlord it has been possible to make this change with only a nominal increase in rent.

At Fall River there has been a very satisfactory growth in the making of a corn broom admirably suited to the needs of the many mills in that city. This development has necessitated the purchase of more broom-making machinery, and it is believed that there will be a continued increase in this branch of industry.

At both Pittsfield and Lowell, as well as at the other "M. C. B." shops, there has been steady work for the men practically throughout the year; and the changes to more central locations made within the last year or two have amply justified themselves.

Wages. — It should be emphasized, however, that while in these "M. C. B." shops, as well as in the rug and mop shops and the shops for women in connection with Woolson House, the commission makes every effort and uses every available means to keep the workers steadily occupied, and while, by a system of graduated bonuses, it endeavors to offset the physical or mental handicaps under which certain blind men and women suffer, nevertheless, the activities carried on by the commission on behalf of the State are essentially business activities, to which the Commonwealth is glad to lend its aid, but which it cannot afford, in justice to the innumerable demands upon it, to carry on at too great a loss. Consequently, the number of men and women admitted to the shops has to depend upon the demand for the goods which they can make; and if, because of general business depression, that demand falls off, the commission, as trustees for the State's money, cannot permit the piling up of goods for which there is no prospect of a market. It should be understood, therefore, that when a worker is ad-

mitted to any of the shops the wages which he or she can earn there depend, not upon the commission, but upon the ability of the worker and upon the demand for the kind of goods which he or she can produce. In admitting a worker the commission guarantees neither steadiness of employment nor a fixed wage. All it can do is to make every effort, in co-operation with the worker, to secure steady work and a reasonable return for that labor.

Employment. — Furthermore, while it is the policy of the commission to encourage, by bonuses and in every other rational way, those workers who are earnestly trying to increase their efficiency, and for whom there seems good prospect of ultimate success, it cannot, in justice to the blind in general, keep in its employ, beyond a reasonably long trial period, those men and women who, from want of interest or lack of ability, do not earn at least a minimum weekly wage. Since both shop space and markets are necessarily limited, the opportunity to benefit by the shop system should be open first of all to those able and willing to make good use of it. Every effort should be made, and will continue to be made by the commission, to provide for the less able; but there will always remain a group of men and women who are subjects for charitable rather than for industrial assistance, and these should be taken care of, not in the "M. C. B." or other shops, but in some such way as is contemplated in the proposed legislation noted on page 19.

Other State Departments. — Much could be immediately done towards providing more work for the blind if all the other State institutions and boards which use brooms and mops, and which have chairs to be resealed, linen to be hemmed, etc., would, where this work cannot be done by their own people, avail themselves of the opportunity to employ the blind. The commission reiterates with even greater emphasis the plea for this kind of co-operation which it made in its last annual report.

THE \$25,000 APPROPRIATION FOR INDUSTRIES.

This appropriation is utilized to furnish a working capital for, and to supply the inevitable deficits in, the rug shop at 686 Massachusetts Avenue, Cambridge, the mop shop at the same location and the Woolson Industries at 277 Harvard Street, Cambridge.

The Rug and Mop Shops.

While there has been a slight falling off in the sale of the Cambridge rug, owing to the depressed conditions of general business, the sales of Wundermops have increased by nearly 600 dozen. (See pages 99 and 100.) Both these articles are now accepted by the trade as standard, the Cambridge rug being at least double the weight of its nearest competitor, and superior to all others in its colors and designs, and the Wundermop having patented features of reinforcement that, together with the extra strong material used, cause it to outlast at least two of the mops commonly sold. At the suggestion of certain customers the commission has undertaken the manufacture of a woolen rug, the "Mitana" (an Indian word for "by the hand"), which seems to give satisfaction. Facilities for making this woolen rug being still limited, no serious effort has been made to push it in the market; nevertheless, orders for as many as could be made have been received.

The rugs and mops, by their quality and dependability, having won an established place, and the steady growth of the business being seemingly assured, the commission has felt justified in making plans for enlarging the floor space to be occupied by these industries by at least 100 per cent. It is hoped that arrangements can be made by which this enlargement can take place through additions made to the building on Massachusetts Avenue, Cambridge, in which the commission has been a tenant for seven years. Plans are now under consideration which will give not only larger but very much better quarters, and will enable the change to be made without the interruption and confusion of moving to another site.

Woolson House Industries.

The policy inaugurated a year or two ago, of employing the workers in the Woolson House industries largely upon the weaving of small articles which meet with a ready sale, has been justified through the fact that it has been possible to keep the women busy practically throughout the year. Five women weavers giving all their time, and two others giving part of their time, have produced 3,086 articles, most of them already disposed of; in addition, one worker, both deaf and blind, has

made 24 braided rugs of unusual quality, some of them 8 feet in length. Three women have been employed in caning chairs, and other blind women are occupied in repairing and finishing material, both for the women's shop and for the rug shop on Massachusetts Avenue.

The workshop in connection with the Woolson House has been heretofore conducted in what was formerly a stable; and while the rooms have been measurably satisfactory, the commission has always looked upon the arrangement as temporary until the success of the Woolson House experiment should have been demonstrated. That time having arrived, the Association for Promoting the Interests of the Adult Blind has, with its usual zeal and generosity, made arrangements through which there is to be begun in the early spring the erection of a new shop building, capable of accommodating 30 women. While occupying a larger area in the yard of Woolson House than that covered by the present building, the new shop will still leave ample space for those forms of outdoor exercise and recreation which have been so valuable a feature of Woolson House, and it will contain every provision for the comfort and convenience of the workers, as well as for efficient manufacturing.

THE SPECIAL INVESTIGATION OF DEFECTIVE EYESIGHT.

On page 31 is reprinted the report made to the Legislature under chapter 97 of the Acts and Resolves of 1913, requiring the commission to make a special study of the problem of seriously defective vision. As this act was not approved until the latter part of May, the time has been too short to make a complete study; moreover, the summer and fall is the most unfavorable period in which to make those investigations of school conditions so important in such an inquiry. Nevertheless, enough information has been brought together in that report to demonstrate conclusively the importance of this problem of defective vision, and to justify the commission in asking for a further appropriation of \$5,000, half of that sum to be devoted to further study and to the work of vocational guidance for adults handicapped by defective vision, and the other half to be expended in carrying out in some city or cities ready to appropriate another \$2,500 for the purpose an experiment in

establishing a defective eyesight class with ophthalmologists' supervision. Experience elsewhere, especially in London, has demonstrated beyond question the value to this comparatively large body of handicapped boys and girls of giving them the right sort of education to promote their happiness and industrial efficiency. Few types of special work in the larger communities of Massachusetts could result in such economic advantage as this labor of finding out, by expert examination, those boys and girls who, because of existing or impending defect in vision, should receive a kind of education which will not increase that defect, which will prepare them for efficient living despite that defect, and will help them by expert vocational guidance to get into those lines of work where limited eyesight will not prove a serious handicap. Because of the importance and undoubted fruitfulness of this field of inquiry it is earnestly hoped that the Legislature of 1914 will make the special appropriations asked for.

The Defective Eyesight Class in the City of Boston.

On April 3, 1913, the Boston school committee opened a class for children with defective eyesight in the Thornton Street School, Roxbury. A teacher with special experience was secured, and she has prepared teaching material and appliances suited to pupils thus handicapped. The room assigned for this special class is large, well-lighted, with ample blackboard space and with movable chairs. The class opened with 5 children, afterwards increased to 9, and at the beginning of the present school year 10 boys and girls were registered.

Superintendent Dyer, in his annual report for 1913, speaks in commendation of this class, and it should prove the forerunner of a number of such classes throughout the city, providing for all children in the public schools whose deficiency in vision makes it essential for them to have special, individual attention. Such classes, however, should not be established unless, at the same time, there are provided ophthalmologists to make periodical expert examinations of the children's eyes, in order that the kind of training may be so adapted to the individual child as to improve, rather than to injure, the fraction of vision which he may possess.

SUGGESTED NEXT STEPS.

As has been noted in previous reports the question of blindness, serious and depressing as it is, has the advantage of definiteness, so that it would be possible, given adequate funds and widespread public support, to "get under" the entire problem. The commission feels that the work of seven years has demonstrated: (1) that, by education of the public, and by strict enforcement of prophylactic measures, a large percentage of eye disablement and of blindness can be prevented; (2) that by vigorous co-operation among all the agencies concerned much of the defective vision due to incipient disease, to working under conditions of improper lighting, to overstrain, to lack of glasses, and to other like causes, may be done away with; (3) that a large proportion of those blind persons who, in earlier times, were a charge upon the State or the community can be made wholly or partially self-supporting; and (4) that there are still lacking well-defined and adequate plans for the relief of the aged, infirm, homeless and dependent blind.

These fundamental facts having been, in its opinion, demonstrated, it is the duty of the commission to urge upon the Commonwealth a line of policy which shall in time deal comprehensively and adequately with the whole question of blindness. To handle the problem in this thorough way would result in markedly increased efficiency and happiness for citizens now incapacitated or seriously handicapped by blindness or by defects in vision. Such adequate provision would involve:—

1. Co-operation of all possible agencies in stamping out those preventable diseases which now contribute in such large measure to total or partial blindness.

2. A comprehensive and co-operative educational campaign, carried on by existing agencies, for the conservation of vision now threatened by improper lighting, too much book work, lack of glasses or use of improper glasses, unsanitary or dangerous industrial environment and other conditions inimical to sight.

3. Ample facilities for the right sort of education in the regular, or in special, classes for those seriously defective in

vision, together with a system of vocational guidance for such youth, and for adults with greatly impaired sight.

4. Co-ordination and extension of field work and State home teaching, both of which necessitate travel about the State, often concern the same adults, and are at present directed, one by the Perkins Institution under authority delegated by the State Board of Education, one directed by the Commission for the Blind.

5. Ample opportunity in central or local shops, or in their homes, for all adult blind persons capable of entire or partial self-support to be productively occupied.

6. Adequate provision, through existing institutions and through additional special institutions, for all those blind or partially blind who are incapable, through physical or mental weakness, of even partial self-support, but who need to be kept occupied under expert supervision or to be otherwise relieved.

So much has already been accomplished through the co-operation of physicians and laymen in diminishing preventable eye disease, and so much thought and attention is being devoted to the control of sexual disease, tuberculosis, etc., that it is not too much to hope that the next generation will see a marked diminution in the percentage of preventable blindness. The experience of a decade has shown that with adequate funds to equip shops and to push, by advertising and canvassing, goods manufactured, practically all blind persons capable of entire or partial self-support could be provided for. The special investigation carried on since June, together with the results of the special class for children with defective vision being conducted by the school authorities of Boston, justifies the conclusion that further study and co-operative effort will result in adequate measures for education and placing in productive industry the large numbers of persons with defective sight now unprovided or ill-provided for. If the existing Legislature accedes to the request for legislation set forth on page 19 of this report, a beginning will have been made in taking care of those cases of blindness for which little except subsidized occupation is possible. And if those having to do with the complicated problems of schooling, of illumination, of industry and of providing aids to vision will work shoulder to shoulder

with those seeking to preserve the eyesight of all citizens of the Commonwealth, there will result a conservation of human efficiency that in a generation or two will return many times over to the State all that it has spent or may spend for the purpose of saving eyesight or of minimizing the handicap of blindness where such preservation is impossible.

CO-OPERATION.

In every aspect of the problem with which the Commission for the Blind has to deal, the fundamental importance of co-operation conspicuously appears. No one agency can by itself do much to avert and to alleviate blindness; but all the agencies — educational, industrial, medical, philanthropic — working together can reduce the numbers and the burdens of the blind to a minimum that a few years ago would have seemed impossible. That this is true is proved by the results of the co-operation which, in its short existence, the commission has already been so fortunate as to enlist. To enumerate the agencies and the individuals that are helping the work for the blind would require too much space, but to those agencies — legislative and administrative, public and private, professional and lay — and to those individuals — State and institutional officials, physicians, social workers, etc., — the commission desires to express the profoundest gratitude. Above all, from its own workers, from those with sight and from those without, it receives a devoted and expert service for which the blind of Massachusetts, as well as the commission itself, are under continued obligation.

Respectfully submitted,

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WALTER B. SNOW,
EDWARD E. ALLEN,

Commission for the Blind.

SPECIAL REPORTS.

The Commonwealth of Massachusetts.

CHAPTER 97, ACTS AND RESOLVES OF 1913.

RESOLVE TO PROVIDE FOR A REPORT ON THE CONDITION AND EDUCATION OF PERSONS WITH SERIOUSLY DEFECTIVE VISION.

Resolved, That the Massachusetts commission for the blind investigate the condition of persons in this commonwealth with seriously defective vision who are not now provided for either by any school or by the Massachusetts commission for the blind. The commission shall consider how the condition of such persons may be improved by providing them with instruction in a business and training institute for persons with defective vision. The commission shall report to the general court the result of its investigation, with such recommendations for legislation, if any, as it may deem expedient, on or before January tenth, in the year nineteen hundred and fourteen. [*Approved May 27, 1913.*]

I. REPORT ON THE CONDITION AND EDUCATION OF PERSONS WITH SERIOUSLY DEFECTIVE EYESIGHT.

To the Honorable the Senate and the House of Representatives.

In accordance with the requirements of chapter 97 of the Acts and Resolves of 1913, the Massachusetts Commission for the Blind begs leave to submit the following report on the condition and education of persons with seriously defective eyesight.

INTRODUCTION.

While it has not been possible in seven months to outline the size of the defective eyesight problem in this State, it has been possible to make a study of conditions which helps to define the need, and gives a basis for recommendations, both for action and for further study. This report includes sections on the following points:—

Means of Study.

Definition of Defective Eyesight.

Difficulties of Investigation.

General Reports from Eye Clinics and Schools.

Needs shown by Study of Individual Children's Cases.

What can be done for Such Children:—

(a) By School Ophthalmologists.

(b) By Special Classes in Public Schools.

Needs shown by Study of Individual Cases of Adults.

Vocational Study and Guidance for Adults.

Recommendations.

Appendix.

MEANS OF STUDY.

In studying conditions the commission has had, on full time for four months and on part time for three months, a special worker of wide, practical experience in non-medical work for prevention of blindness and in questions of industry and employment, who has worked in co-operation with the agent for conservation of eyesight.

From June 1, 1913, to Jan. 1, 1914, inquiries have been pursued, as follows:—

1. Inquiry through hospitals, ophthalmologists and school superintendents in Boston, Worcester, Springfield, Lawrence, Lowell, Fall River and New Bedford. Inquiry as to the experience of the Perkins Institution for the Blind, the School for the Feeble-minded at Waverley, the State Board of Minor Wards, the Boston City Institutions Department, the State Board of Education, the State Industrial School, the Concord Reformatory, the Industrial Accident Board, the King's Chapel Bureau for the Handicapped, the Commission for the Blind and others.

2. Study of cases of defective sight as found through these various institutions and individuals.

3. Inquiry as to the problem and methods of solution in London, New York, Milwaukee and Cleveland.

DEFINITION OF DEFECTIVE EYESIGHT.

The workers, in consultation with ophthalmologists, have interpreted defective eyesight to mean vision from about one-third to one-tenth of normal with the best glasses obtainable.

DIFFICULTIES OF THE INVESTIGATION.

To give close estimates of the total number of adults or of children with seriously defective sight, who are known to require special vocational guidance or special schooling, is not yet possible. The defect is not obvious, as in the case of blindness, and men, women and children vary widely in their ability to "get on" with a small fraction of sight. To make sure of the actual condition and needs it would be necessary to secure:—

In all cases expert advice as to vision.

In some cases expert advice as to other physical handicaps, mentality, etc.

In all cases advice from some one fitted to judge what may fairly be expected of an individual with this limited degree of vision.

In the short time allowed this has been possible to determine in only a limited number of cases, the report of the special

worker being based upon a study of 256 children, — of whom 140 proved to be candidates for special training, — and of 100 adults, notably those who have been sufficiently hard pressed for employment to come to the attention of special organizations like the Commission for the Blind and agencies for the handicapped.

It should be noted, also, that children's cases could be studied to much greater advantage in the winter months after the school eye tests are concluded in February, and that the inquiry concerning adults should be pressed during the winter months rather than in the vacation period, and should cover a much longer period.

GENERAL REPORTS FROM EYE CLINICS AND SCHOOLS.

From study of a year's records at the Eye and Ear Infirmary, and from a group of special reports from public schools, much general information has been secured which does not determine the numbers actually helpable, but is some index of the widespread and serious need.

1. *Study of Eye and Ear Infirmary Records for One Year.*¹

Among 19,877 patients treated at the Massachusetts Charitable Eye and Ear Infirmary between Sept. 1, 1912, and Sept. 1, 1913, 861 had seriously defective vision. Of these, 861, 75 per cent., or a total of 645, were between the ages of five and sixty-five, and therefore present presumably a problem either of industry or of education.

While some of these patients will ultimately be blind, not all are permanently handicapped. Among the 468 of industrial age (from sixteen to sixty-five), some 25 per cent. suffer from cataract, — a disease likely to cause practical blindness for a considerable period, yet so far relieved by operation that most cataract patients should secure a fair degree of vision. On the whole, however, the figures suggest that the educational and industrial problems of defective eyesight are not only serious but large.

The 177 children of school age suffer from a variety of diseases and defects. Some 31 per cent. of them, for example,

¹ See also appendix, page 51.

suffer from hypermetropia, or farsightedness, — a defect not easily recognized by teachers; they suffer from it, moreover, to a degree not sufficiently compensated by glasses. These and approximately 10 per cent. of seriously shortsighted, or myopic, pupils might many of them be educated in the same classes as their visually normal fellows if they could be provided with reprints of their school books in sufficiently large type. On the other hand, some 34 per cent., handicapped either by the effects of congenital syphilis (23 per cent.) or by congenital cataract (11 per cent.), would probably require, for greater or less periods, books printed in Braille to be read by touch.

2. *School Studies.*

In approaching the study as affecting the schools, it has not been necessary to establish the existence of the problem, as it has long been recognized in the experience of educators.

In trying to arrive at the number in the school population who need special methods of education, we meet a different problem because of the fact that medical inspection is not yet carried far enough to answer the question. Given expert care, many children, helpable by glasses, would not be candidates for special classes, as in their present neglected state they appear to be. On the other hand, many children may be suffering for special education because their eye troubles are not properly gauged by the teacher who makes the examination, or even by the general physician.

The hopeless confusion of present school statistics, even those gathered by teachers keenly aware of the defective eyesight problem but helpless before it, may be judged from the following reports: —

1. SCHOOL A.

Principal's findings: —

Total examined,	1,615
Defective vision without glass ($\frac{1}{2}$ or less),	393
Defective with glass,	62
Total defective,	455
Defective to point $\frac{2}{3}$ or less,	192
Very low vision, as $\frac{1}{6}$, $\frac{1}{8}$,	31

To determine in a short school year how many of these 393 pupils can be helped by glasses is a task quite beyond the present equipment of this school, which provides one school nurse for 1,700 children.

2. SCHOOL B.

The ophthalmologist reporting on his examination of a school in a Massachusetts town, states:—

"I examined the fourth, fifth and part of the seventh grades, — a total of 73 children. I found 20 of this number unable to satisfactorily read the test type, making nearly 28 per cent. who gave evidence of defective eyesight. Two of the 20 were already wearing glasses. . . . I think it is important to mention that although 20 children were found who were unable to satisfactorily read the test type, this does not mean that these 20 children will have to wear glasses. They should be advised, however, to have their eyes examined by an eye specialist. It may be the means of making a child who has always been dull, bright; of restoring to sight an eye going blind from disease. It may improve the general health and comfort of the child, and thus give it an equal opportunity with the one who has been more fortunate in having normal vision."

3. SCHOOL C.

The principal of a school of 900 reports that of 600 pupils enrolled last year, 129 had defective sight; the year before, 184. In this city there are for all schools one school nurse and one attendance officer.

Pediculosis alone takes up a large amount of the time of the nurse, and only if something is unusually wrong does the attendance officer or the nurse find it possible to steer a child to the hospital. Notices are sent to the parents, but the matter usually rests there, so that no one knows how many of the 129 children are candidates for a special class and how many are not.

The principal of this school also reports that one of his buildings has no means of artificial light, and that at 3 o'clock in the winter, "school might as well not be," it is so dark. In this instance it is a question whether the school plant is not contributing to eye disablement.

4. SCHOOL D.

The principal reports that out of 185 pupils 7 have vision so defective that the principal considers it cruelty to the children, and an imposition upon the school, to keep them at ordinary class work. Yet not one of these children has ever had an expert examination of the eyes. In addition to these 7 there are many other children with less serious defects who should be examined, to determine whether glasses may help. This school is one of 29 in a manufacturing city of 86,000 people, which provides 1 school nurse for 29 schools. There is no eye clinic in the city, and only 5 physicians make a specialty of diseases of the eye.

5. SCHOOL E.

Of the same city. The principal reports 45 of her pupils as needing an examination of the eyes, to determine whether glasses can help. She has hesitated to urge the matter too far, fearing that those who cannot afford to pay an oculist may go to an inexperienced optician and be in a worse state than before. She reports excellent results for the school during two years, in which the city made an appropriation for the examination of school children by an oculist.

NEEDS SHOWN BY STUDY OF INDIVIDUAL CHILDREN'S CASES.

In the study of individual school cases the subject has been approached from three points of view, — the physician's, the educator's and the parents'.

From the physician's point of view the healthy child with vision of about one-third may be expected to have difficulty in keeping up with the normal school group, while a less serious defect may handicap the frail or nervous child. There is always the possibility of injury to the remaining sight by ordinary school work, and of injury to the general health by overwork in the attempt to keep up with the class.

From the educator's point of view it is impossible for the child to receive in the ordinary large class the extra attention that he needs. The child is discouraged with always being behind his fellow students, and develops a consequent carelessness, shiftlessness and loss of confidence. Later, his lack of the fundamentals in education, and the shiftless habits acquired in a desultory school course, must inevitably complicate his industrial handicap.

The point of view of the parent is naturally a purely practical one. Injury to the eyes or health is too remote for the majority to appreciate, and the child himself rarely complains of any handicap; he merely accepts. The parents ask only that the children be given the ordinary school training that will fit them for work, — the ways and means they leave to the school.

Among 265 cases gathered in the course of the study, all with seriously defective sight, only 140 were found to need the special consideration of a class for defective sight.

These children may be divided into two groups, — those with vision defective only to the point where ordinary school work

means overstrain or desultory education, and those whose defect in vision places them on the borderline between the blind and the seeing.

The first group is being educated in the regular classes of the public school more or less successfully.

A few of the second group, with courage and mentality above the normal, are receiving an education in the public schools under a tremendous strain, though it is inconceivable that they will be able to make a living as seeing persons. The great majority of the second group, however, are receiving no education whatever, as the public school is out of the question for them, and the parents are not willing that they should be educated as blind children.

It was largely for this group that the Commission for the Blind provided a field worker for children three years ago, with the aim of securing an education for every educable child, who because of total or partial blindness could not attend the public school. A review of this worker's experience shows a vast amount of work with relatively small results, largely because the State could offer no other special educational opportunity than the Perkins School for the Blind.

From the point of view of mentality the school cases may be again divided into two groups,—those of normal mentality, requiring special educational methods, and those below normal who should have special methods if they are to remain in the public school (none of this group is markedly below normal).

The study further shows:—

1. Many of these pupils who need not have been so handicapped if proper treatment had been given at the time it was needed.

2. Some who would need special methods of education only for varying periods, during the process of a long-continued treatment, as in the case of congenital cataract, where treatment often covers several years.

3. Two small groups having similar defects in vision. One having mentality above normal is quite independent of the eye handicap. The other, of only average mentality, feels the handicap.

4. A group in which teachers and others interested are unable

to determine whether or not the children are mentally defective because of the complication of defective vision.

5. A group having other physical handicaps, as well as defective vision, such as deafness, poor general condition, etc.

6. A group receiving more or less education in public schools, yet incapable of making a living as seeing persons.

7. A group whom the teachers find handicapped in school, yet for whom no correction by eyeglasses has been attempted.

8. A group with seriously defective vision who are continuing their education in high schools without medical advice as to how they should conserve their vision and health.

WHAT CAN BE DONE BY OPHTHALMOLOGISTS.

The school studies already quoted, and the study of cases in which expert advice and medical help have actually been secured, show that even a beginning cannot adequately be made in this field without the aid of the ophthalmologist. This has been recognized and acted upon here in Massachusetts by a private organization in the case of one town; for two years by the school authorities in one manufacturing city, and possibly in other towns not reported; but the most notable instances we have to report are from Milwaukee, New York and London, where provision for expert advice and supervision has been made a part of the system of special education for children with defective sight.

1. *Plan for an Eye Clinic in a Massachusetts Town.* — As a result of the school study for one town already reported, it is announced that the Civic Association will open an eye clinic which, with the co-operation of the school department, may be expected to lead to thorough expert examination of the eyes of school children.

2. *Ophthalmologists in Milwaukee Public Schools.* — The supervisor of the department for defective vision in the Milwaukee schools reports: —

Shortly after we opened our day school for the blind in 1907, occasional reports came to me regarding children with very defective vision. Upon investigation I found that immediate and constant medical attention was all that was necessary to save the sight of many of these. At that time we only kept records of the children in our department, so I cannot enumer-

ate the number given personal attention and sent back into the schools capable of continuing their regular class work. Through the generosity of oculists, I secured free treatment in almost every case, and finally, after the medical department was installed, the school nurses joined me in my work.

3. *School Eye Clinics in New York City.* — A visit to one of the seven board of health eye clinics indicates that the number of children whose eyesight makes it desirable for them to receive a different education from that of the ordinary public school classes must be very large. The paid ophthalmologist in charge of this clinic stated that 2,400 children had been examined since January 1. In going over a couple of hundred cards with him several cases were immediately found where high myopia or high degrees of hypermetropia, only partially corrected by glasses, indicated that the children in question required some special form of education. This physician also stated that he saw a great number of children in the clinic with eyes seriously scarred as a result of phlyctenular keratitis, and that many of these children had such low vision that the ordinary school work would be difficult or impossible. He was of the opinion that all children should be examined by an ophthalmologist when entering school, and that special children should be examined periodically thereafter.

4. *Ophthalmologists in London Schools.*

METHOD OF SELECTION OF CASES.¹

One afternoon each week, at a certain place in London, 20 children who are reported by the hospital doctor, the school doctor, or other authority, as suffering from serious defect of vision are brought for examination. Each child is examined, note made of the state of the eyes and such vision as may be present, and some decision arrived at as to what education is possible for each child. Some are returned to the ordinary school as capable of receiving the regular education. Others are graded for various degrees of exemption, or special treatment, up to the admission to the blind schools: —

- (1) Elementary school for easy treatment as regards eye work.
- (2) Elementary school for oral teaching only.
- (3) Myope class.
- (4) School for the blind and partially blind.

¹ From "The Education of High Myopes," by N. Bishop Harman, F.R.C.S., "The Braille Review," September, 1913.

Many are invalidated temporarily for treatment, some are transferred to country homes, but the majority fit into one or other of the four classes named above. Each case is considered on its merits, and many conditions besides eyesight influence the decision arrived at, *e.g.*, the age of the child, whether one or both eyes are affected, the nature and degree of the affection, the possibility of amelioration or aggravation during school age, the possible effects of school attendance and work, the possible educational advantage of a change of régime, — it may be both at home and at school, — and lastly, in the case of the blind and partially blind, the most suitable school for the particular child in the knowledge of his or her age and capability.

WHAT CAN BE DONE THROUGH DEFECTIVE EYESIGHT CLASSES IN PUBLIC SCHOOLS.

1. *The Defective Eyesight Class in the City of Boston.* — On April 3, 1913, the Boston school committee opened a class for children with defective eyesight in the Thornton Street School, Dillaway district, Roxbury. There being no instructor with the precise experience required, a teacher who had proved herself capable and resourceful, alike with the blind and with other handicapped children, was obtained from the Perkins Institution. In special preparation this teacher made various teaching material, such as fonts of heavy black letters gummed on to individual cards, and large maps having coarse outlines and States or countries in color. She collected numerous busy-work appliances and materials, like desk looms, spool knitters, wooden knitting needles, wool, reed, cane, etc., for her appeal was to be through the eye and hand as well as through the ear. (See cut on opposite page.)

The room assigned was a good one for the purpose, large, well-lighted, with desks and chairs mounted on movable platforms, and especially with ample blackboard space. The class opened with 5 children of various degrees of defective sight. By June there were 7, with a total registration of 9. The teaching has been necessarily individual, each child being dealt with according to its defect and advancement. Superintendent of Schools Dyer says of this class in his annual report for 1913, page 54: "The progress made by the children to whom school had meant almost nothing has been remarkable, showing that the effort is well worth while if the children can be reached."



CITY OF BOSTON. — CLASS FOR CHILDREN WITH SERIOUSLY DEFECTIVE SIGHT.

Note in foreground convertible desk-blackboard made after London myopic class model. Note, also, movable desks; hand training through various kinds of occupational desk work, large clear types, etc.

After the long vacation this class opened auspiciously with 10 eager boys and girls, with additional didactic material and with the favorable comment of the parents and of competent visitors.

But the experiment still lacks one fundamental essential, — that of provision for periodical expert examination of the children's eyes, done with a view to determining how far the individual pupil may use or continue to use his eyes at school. As it is, a responsibility is put upon the teacher which she should not bear, and but for advice secured through eye clinics and through the free services of a busy ophthalmologist, this neglect might seriously have affected the results thus far obtained.

2. *Defective Eyesight Classes in New York City.* — In New York City it has recently been decided so to extend the plan for educating the blind in the public schools as to include children with defective sight. This plan will be greatly facilitated by the school eye clinic organization already described.

3. *Defective Eyesight in Milwaukee Schools.*¹ — In Milwaukee the teaching of children with defective eyesight in the public schools is being developed in association with the teaching of blind children begun in 1907. The supervisor of this work reports: —

We use different methods for each individual, for the children must be under observation at all times and judged as to the amount of board work they can do without ill effects. We have had to teach Braille at first in nearly every case, not for the purpose of reading but for writing, thereby relieving the strain. This does so much to improve the child's condition that we are often able to drop the Braille within a few months.

The supervisor cites the following instance: A was twelve years of age, and the entire time she had previously spent in school amounted to eight months. The doctor analyzed it as a case of phlyctenular keratitis which in a month would have resulted in total loss of vision. A has been in our department three years, and is now able to use the regular school readers.

4. *London Classes.* — The London myopic classes are notable in having an experience with more than 300 children to report upon and in being thoroughly and delightfully reported upon by

¹ See also appendix, page 53, for "Class for Conservation of Vision in Cleveland."

Dr. Harman. The following quotations, selected to bring out the demand for the class, and the conclusions from three years' experience are made from his article published in "The Braille Review" for September, 1913. For further quotations see appendix, page 56.

THE EDUCATION OF HIGH MYOPES.¹

The demand for some scheme of education suitable for children suffering from a defect of vision is a very natural one. It is bound to arrive because no one scheme of education will cover all cases. The curriculum of any school is designed for the greatest good of the greatest number. Misfits must suffer, either because they are incapable of taking advantage of the education provided, or else because the scheme would be injurious to them if their full attendance were insisted upon. This was early recognized in the case of the blind, and special forms of education were provided for them, and in the case of elementary school children extra grants were given by the State to meet the additional cost of their special educational needs. The difficulty became acute in the case of those who had serious defect of vision and yet were not blind and not likely to become blind. When such cases came to the ophthalmic surgeon he very rightly objected to the attendance of these defective children at the ordinary school; it was not right to subject them to the strain involved. In the end the children either were exempt from school altogether, or they were drafted into the schools for the blind and partially blind, under the definition given in the act providing for these schools. Neither of these alternatives was satisfactory.

In the first case the child loafed about the streets, or became the household drudge, and the more intelligent of them took their lessons from their normally sighted colleagues, and read without restraint under the worst conditions; indeed, the very aim of exemption from school was defeated. Further, it must be recognized that the denial of the communal life of the modern school was a real loss to the children, and one that was recognized by the children themselves. In the second case the admission to the blind school had its own drawbacks. The children had to associate with the blind, and do the work of the blind, yet they themselves were sighted children, and for the most part not likely to become blind, certainly not in school years. The work they learned was waste of effort and utterly useless. Teaching Braille to a shortsighted child is misplaced energy of the worst kind, for the child will not read it with its fingers, but the instant the teacher's back is turned the child bends down its head to read with its eyes bare impressions on the paper, which are vastly more difficult to see than ordinary black print. Again, the labor was wasted, for no such child ever dreamed of reading the limited works of the Braille press after

¹ By N. Bishop Harman, F.R.C.S., ophthalmic surgeon, Belgrave Hospital for Children; assistant ophthalmic surgeon, West London Hospital; vice-dean of the Post Graduate College.

leaving school; if it wished to read, it read the books of the normal children of the household. Lastly, and this is the most serious matter for the children of the working classes, the child left school with the stigma of the blind school upon it, and in these days of employers' liability acts that is no light matter. When a child leaves school and applies for work it is the usual thing for the would-be employer to ask from what school the child comes, and the standard passed; the mention of blind schools is sufficient to terminate the interview, for who will run the risk that the employment of the bad sighted entails? . . . In conclusion, the lessons of the experimental establishment of these classes and their extended working are that a suitable system of teaching myopes can be arranged and carried out successfully; that such classes should never be independent units, nor be associated with existing blind schools, but be formed as integral parts of existing elementary schools; that their success depends almost wholly on the intelligence and initiative of the teachers, who have to do real teaching and not merely to act as a pedagogue to lead the child to the school book; that the training for these children should be general and not merely technical; that classes for these children should be of small size, with an optimum number for each teacher of a dozen, but never more than a score; that there must be a standard of visual acuity of six-eighths vision for the children successfully to take a share in the work and that the children must be under regular individual supervision during the whole of their school life.

NEEDS SHOWN BY STUDY OF INDIVIDUAL CASES OF ADULTS.

The investigation on the industrial side of this study has covered a group of 100 cases whose history and experience may be pertinent to the inquiry. The degree of vision was one-fourth normal in a few instances, one-fifth or less in most cases. This group was at first roughly divided into two, — those always handicapped, first in school, later in work, and those whose vision failed during the industrial period. It is difficult to judge which group faces the greater handicap. It would seem that those who lose vision relatively late in life would feel it the more in that they must learn to do without, after depending so long upon vision. But these at least have had the advantage of the ordinary school training with all that this implies, and the added training that comes with many years of regular work. Their greatest difficulty appears to be the slow realization that loss of vision means loss of wage-earning capacity.

One of the significant facts brought out in the study is the importance of school training, mental and disciplinary, and

illustrated in a comparison of a small group of successful Perkins School graduates who are only partially blind, with a similar group of unsuccessful men whose vision is approximately the same, but who have had little or no education, as their vision precluded the work of the ordinary school and their parents refused to consider education with the blind.

The kinds of work represented are more varied than one would expect, until it is remembered that here as elsewhere the choice of work and success or failure is largely a matter of personal equation.

Among the women *housework* is naturally the work most frequently chosen, and is that in which the worker shows least strain. Domestics with one-tenth normal vision reported that they had never felt any strain in their work, and most did not, at least consciously, choose the work because of the low vision. In four cases where this answer was given the girls had never attended school. Rough factory work that requires little vision is next in the list of occupations for women, but this is apparently very limited in amount and very poorly paid. The wages of three women employed in this way are given as \$3, \$4 and \$5 a week. Two girls are employed in doctors' offices, attending to doorbell and telephone. Two women, one an accountant the other a bookkeeper, are now employed as switchboard operators, both with the firm by which they were employed before sight failed. Among the other kinds of women's employment are stenographers, general clerk, hospital ward maid, waitress in small restaurant, nursery maid, actress, public entertainer.

Among the men and boys the varieties of workers were many: bootblack, canvassers, drivers of heavy, slow-moving teams, or helpers on ice teams, factory employees at rough work, farm laborer, hostler, janitor's helper, laborers, street or building, operator of vacuum cleaner, piano tuners, proprietor of chicken farm, section foreman, small storekeepers, waiter in small restaurant, workers at odd jobs about grocery store.

Two men were able to follow their regular trades of leather sorter and machinist's helper even after their vision failed. Two brothers showed unusual wisdom in the selection of their work: one is a peddler of wood and has no trouble in driving

an old horse through residential districts; the other is an elevator starter in a large office building. One man, who has apparently done the work of three ordinary men, is earning a good salary by orchestral work in the evening. This man was born with congenital cataract, and from his sixth to his twelfth year was educated by special methods, while his eyes were under treatment. At twelve, the sight of one eye had been improved almost to normal, and he entered a public school. At sixteen, in his second year in high school, he met with an accident which totally destroyed the vision of the good eye, leaving him only the very imperfect vision of the poorer eye. Forced to leave school he went to work as a clerk, but took up the study of shorthand and typewriting, taking his notes in large characters and later reading them by means of a powerful reading glass. When added responsibilities called for a larger income, he worked evenings again, this time as a student of music, and later started his orchestra, now a success for some years. He has done all this with vision so low that it would be a permanent handicap to many men.

Eleven still in the process of readjustment had no work.

To arrive at numbers in the case of adults is only less difficult than to settle upon some form of work peculiarly adapted to their needs. Inquiry among the oculists of the State brought very few names, largely because the specialist does not, as a rule, know very much about the social condition of his patient, and the question as to how many of his patients are industrially handicapped because of defective sight was usually a new one to him. Inquiry through the hospitals contributed many other instances of vision so low that a serious industrial handicap might be expected, but frequently these individuals could not be traced, or when found presented such a variety of conditions and experiences as to confuse the problem rather than to illumine it. The personal equation here as elsewhere is so large a factor that a loss of vision which totally disables one man may have little or no effect industrially upon another, and a man's point of view may handicap him more seriously than any physical defect. Vision that handicaps in one trade may have little effect in another.

Some who have been handicapped all their lives have never

found the kind of work suited to them, while others have always been self-supporting. Some who have suffered loss of vision comparatively late have had the good fortune to find just the right work from the start, or to have had always a variety of work not requiring close use of the eyes. Others forced to give up well-paid work may have a cruelly hard experience in their attempt at readjustment. A man with seriously defective vision able to compete with the normal group is either lucky above the average or has ability and courage above normal, while the man not able to readjust himself industrially may be simply unfortunate or have only average ability and courage.

The experience of such men who have applied to the Commission for the Blind in the last few years has furnished the best material for the study of this form of physical handicap. Following are a few examples:—

A, a man of thirty-seven, who applied to the commission recently for help in securing some kind of work that would make it possible to support his wife and two children. He had earned very good wages as a driver of a laundry team up to six years ago, when his vision failed to the point where such driving was unsafe. He then took a small farm, but as he knew nothing of farming, naturally failed, though he gave it a trial for four years. He next tried buying and selling eggs, and met failure because he had no capital. Here was a man of ability and courage, who was unfortunate in choosing first a work for which he was wholly unfitted and then a business requiring capital, when he had no capital.

B, a man who had to give up his work as an engineer at the age of twenty-seven, and for more than seven years remained idle, his courage having failed even more than his vision. Yet for some years now this man has held a job secured for him by the commission — a modification of his old work — as furnace tender and janitor, and is doing practically the work of a seeing person.

C, thirty-four years old, whose work while he had full sight was that of a teamster and who has been a hard drinker. He still has considerable useful vision and should be able to do certain forms of unskilled work, yet, though he needs it very badly, he has given up the work found for him, — the simplest kind of work in a factory.

In securing capital for A the commission has had to furnish only one item in the requisites for success in his work, and that by no means the most important one. In securing work for B the commission again had to give only the opportunity that restored lost courage, — the man had plenty of ability

and the will to do. But in the case of C it is doubtful if any work can be found for him while he still lacks the will to do his share.

Reports from Other Agencies on Employment of Adults with Defective Sight.

The State Free Employment Bureau reports that applications for work from those handicapped in sight average about *1 a week*, as against 6 or 7 a *day* of other kinds of handicap (including the "moral handicap" of discharged prisoners). The Bureau has never had the time to work out any special plan for these. The State Board of Charity has been asked to pay the salary of a worker for the handicapped in this department.

The Industrial Aid Society reports that there has been about one application a week from men handicapped by defective sight. No special kind of work has been considered as especially fitted for that group. In the women's department this form of handicap has not been noted, possibly because the only form of work asked for or offered is housework, where such a handicap would give relatively little trouble.

The Free Employment Bureau of the Federated Jewish Charities does not recall having ever had applications from persons so handicapped.

The King's Chapel Committee for the Handicapped reports 11 such cases referred in a period of one year, — 4 men and 7 women. Three of the women were educated at Perkins School, and two had vision so low that it seems almost impossible that work could be found for them among the seeing; yet both held the positions secured for them in light household service and were happy in their work. Success or failure in their work was apparently due in each of the 11 cases to qualities of personality.

VOCATIONAL STUDY AND GUIDANCE FOR ADULTS.

The needs of adults with defective vision are not such as can be met by the establishment of a business and training institute alone. Much more study and practical experiment will be necessary before it is clear whether such an institute would, to any considerable extent, relieve the situation. In-

dications up to this point are that suitable early education would fit many persons with defective eyesight to compete with persons with normal sight, without further aid. Others may need vocational guidance, the basis for which can be secured only by further study and experiment. The establishment of an institute at this time seems unwise as, of the numbers so far thoroughly known, no two seem to be fitted for work which would require similar training. It seems probable, too, that training for appropriate occupations for persons with defective eyesight may well be secured in connection with existing institutions, provision being made for such readers, clerical assistance, special books or other equipment as may be necessary in the individual case.

SUMMARY.

The study of a single case of an adult with defective sight in straits for suitable employment almost invariably goes back to either or both the handicaps of (1) lack of early and adequate medical care of the eyes and (2) lack of early and suitable education. The problem has been constantly presenting itself to the Commission for the Blind in individual cases during the past seven years, and both in these cases and in the special study of this year it has been impossible to go into the subject in any satisfactory and practical way, except in relation to these two important sides of the question. It is practical at once for the Commission for the Blind, given the funds for special workers, to continue, case by case, vocational study and guidance for adults; but equally as important for the State is the matter of conservation of vision by more adequate provision for the care of the eyes of school children and by appropriate education. The energy of school children with seriously defective eyesight, now undirected and undisciplined, is without any doubt leading many towards the ranks of the unemployed and membership in institutions for the wayward. The adult who comes for industrial training and employment because of defective sight often has not only made an unwise choice of occupation, but has the added handicaps that come from lack of early training in good habits which the normal child gets at school, as well as the timidity and depression following repeated failures, and often the actual physical suffering from general

nervous strain and actual impairment of vision. He is really the result of a school system that persists in training every child through books and the one sense of sight, largely to the exclusion of training through other senses. He may not be *helpable now*, but he was *helpable once*. The accumulation of proof, through acquaintance with many cases, led the Commission for the Blind to urge upon the Boston school committee the importance of experiment in this direction, and the class begun about a year ago marks an important step in this direction. Vocational guidance must begin with early recognition of the defect, and appropriate education. The successes of persons so handicapped, when they have happened to be fortunate in early home training and in choice of occupation, give promise of satisfactory results if an effort is made to give appropriate training and guidance to all children of sound mentality who are physically handicapped in this way.

RECOMMENDATIONS.

As a result of the study made under authority of the Legislature of 1913, the commission recommends:—

1. That an appropriation of \$2,500 be made for the salary and expenses of workers to continue the study of defective eyesight problems and the work of vocational guidance in individual cases of adults under the direction of the Commission for the Blind.

2. That an appropriation of \$2,500 be made for an experiment in establishing defective eyesight classes in such city or cities of the State as will make an aggregate appropriation of equal amount, the said appropriation to be used for services of ophthalmologist, salary of special teacher, expenses of supervision and special equipment, the State Board of Education and the Commission for the Blind to supervise jointly the experiment.

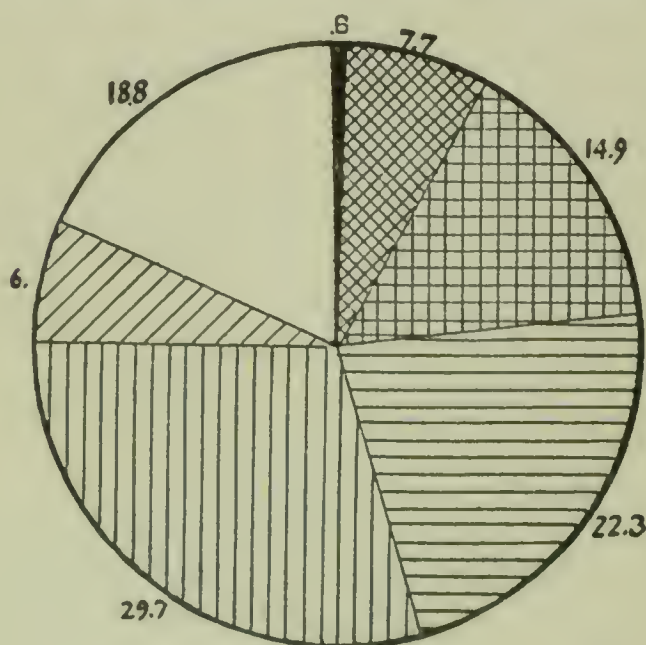
Respectfully submitted,

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APPENDIX.

1. ESTIMATED NUMBER OF PERSONS WITH SERIOUSLY DEFECTIVE EYESIGHT.

VISUAL DISABLEMENT
TWO YEARS RESULTS IN THREE BOSTON HOSPITALS

2021 PATIENTS 100%

Good Vision	Railroad Standard	Both eyes normal vision	18.8%	○
		One eye not less than .7 of normal	6.0%	⊙
		One eye not less than .5 of normal	54.5%	⊖
		Vision of better eye normal	28.7%	⦶
Fair Vision		Vision of better eye .7 to .3 normal	22.3%	⊕
Visually Handicapped		Vision of better eye .3 to .1 inclusive	14.9%	⊗
Practically Blind		Vision of better eye .1 to shadows "	7.7%	⦿
Blind		Vision of both eyes nil	.6%	●
			100.0%	

The number of persons in Massachusetts with seriously defective eyesight may be approximately estimated as follows:—

A study¹ of 2,021 eye patients treated during two years in the wards of three Boston hospitals, shows that the number of patients with vision seriously impaired (from .3 to .1 of normal, inclusive) was far greater than the number of blind and practically blind (vision less than .1 normal). As indicated in the diagram, while 8.2 per cent. were blind or practically blind, 14.9 per cent. had seriously defective vision in even the better eye. If these relative proportions held good for all eye patients, those with seriously defective eyesight would be nearly twice (1.8) as numerous as those totally and practically blind; and in the State of Massachusetts we might estimate their number as 1.8 times the blind and practically blind; *i.e.*, 1.8 times 4,000, or some 7,000.

It must be remembered, however, that many persons with seriously defective eyesight due to increasing shortsightedness (progressive myopia), etc., and that many persons blind from chronic disease (such as optic atrophy), are treated, not in the wards of hospitals, but in clinics. Among out-patients, therefore, as contrasted with ward patients, the proportion of blind persons to those with seriously defective vision might be either larger or smaller. In our study of out-patient records at the Massachusetts Charitable Eye and Ear Infirmary the numbers of patients in each class have been compared.² The comparison indicates that patients with seriously defective eyesight are actually about 3.2 as many as the blind or practically blind. If this proportion holds good throughout the State we may therefore estimate the total number of persons in Massachusetts with seriously defective eyesight as about 3.2 times the practically blind, or about 13,000.

These estimates, — 7,000 and 13,000, — are, of course, very rough. And even if we accept the larger estimate as probable, we must remember that by no means all of these 13,000 persons would present either an educational or an industrial problem.

Judging from our figures for out-patients, about 2,500 (21 per cent.) would be of school age. The 7,000 (54 per cent.) or so of working age would be about half women and half men.

¹ Made, at the request of this commission, by the research department, Boston School for Social Workers, supported by the Russell Sage Foundation.

² Deducting 30 per cent. of the cataract cases as probably recovering a fair degree of vision.

Among about 3,500 handicapped women, of working age, some 1,500 (43 per cent.) would be married, and most of them engaged in housework, while about 875 (25 per cent.) would be gainfully employed; and among the men some 3,200 (92 per cent.) would apparently be at work.

Though relatively few persons of industrial age seem to be out of work because of low vision, many who are earning their living would benefit by industrial training or advice. The majority, drifting into work which requires little eyesight, are laborers, domestics, etc. As such they can safely shift for themselves. Others, however, — and how many they are can only be surmised, — are printers, tailors, teachers, seamstresses, etc. These may often require change of employment if their remaining eyesight is to be saved.

2. METHOD OF THE NEW YORK CLASSES.

In New York City both the blind children and those with seriously defective vision who are not classed as blind are educated in the regular public schools with the seeing children. In all but two subjects the work is done in the same classes, the blind and defective-eyesight children having the same lessons and using the same books. To make this possible all requisite books are specially printed in Braille and are taken home by the children for study. In the geography classes maps printed in raised lines are used. A special teacher serves as an intermediary between the blind and defective-sight children and the regular teachers, first teaching the children Braille and then serving as translator; for example, a blind child in the geography class writes the names of the principal products of each State on strips of paper in Braille, and pastes the strips onto her raised map. The special teacher then writes the names of the products on the map beside each strip of Braille, and the map is handed in to the regular teacher with the equivalent maps filled in in ordinary script by seeing children. The child's work is then criticized and marked on exactly the same basis as the work of the seeing children. In this way the blind and defective-sight children are kept in competition with the seeing children. By the help of a special playground teacher, moreover, they are kept in normal communication with the other children, even during recess.

3. CLASS FOR THE CONSERVATION OF VISION IN CLEVELAND, OHIO.¹

As a result of medical inspection in Cleveland certain children have been found who are partially blind or are suffering from some visual defect which is likely to lead to blindness if they continue at school under ordinary conditions. The defects present in such children may be classified under two headings: (1) opacities, and so forth, either congenital or the result of inflammation of the cornea or abnormalities of the lens; (2) progressive myopia, or short sight, a condition in which the axis of the eye gradually becomes longer. This lengthening is accompanied by stretching of the wall of the eyeball, and such children always run the risk of the inner and most important part of the wall of the eye, the retina or nerve layer, being torn away and blindness resulting. In class 1 the vision is permanently dim, and obviously special instruction in a very well-lighted classroom is desirable. In class 2 the children usually see fairly well, but ordinary school work favors progressive change and grave risk to vision. In the past such children have been referred to the department for the blind, but unless their work in the ordinary classroom was very seriously affected by their limited vision, no special provision for them has been made. The teacher has been notified of their condition and they have been kept under close observation. Those who seemed most handicapped have been enrolled in the class for the blind. They have been assigned to their proper grade room in the building and have received from the teacher of the blind such assistance as her time would permit. But we have long felt this to be little more than a makeshift. Every institution for the blind in the country contains a number of such children. There they are usually instructed as totally blind children. After long and persistent effort on the part of both teacher and pupil some facility in finger reading is acquired. This method of reading seldom becomes easy, and when left to themselves the pupils soon succumb to the temptation to read the Braille with their eyes. The effort to discern the raised white dots upon the white paper is, of

¹ Reprinted from Report of R. B. Irwin, supervisor special classes, Cleveland public schools.

course, far more injurious to their eyes than is the reading of ordinary ink print. Such pupils after leaving school make little or no use of the knowledge of Braille, on which so much time and energy have been expended. With the aid of some sort of a magnifying glass they manage to do such reading and writing as are absolutely necessary.

There was opened at Waverley School this year what might be termed a class for the conservation of vision. A classroom was selected which has as nearly ideal lighting conditions as we could obtain. It has a north and east exposure, and the window space is equal to more than twenty per cent. of the floor space. Shades have been placed in the middle of the window as well as at the top, in order that the glare of the bright sunlight can be excluded without darkening the room unnecessarily. An illuminating engineer from the National Electric Lamp Association planned the artificial lighting. Glare has been reduced to a minimum by refinishing the woodwork and the desks with a mat surface, and the walls have been redecorated with calcimine, instead of paint, for the same reason. The ceiling and walls down to the picture molding are cream, from the picture molding to the blackboard are buff, from the chalk tray to the floor are a dark brown. A strip of blackboard extends across two sides of the room, and over this is hung blackboard cloth attached to curtain rollers, which may be drawn down at will to afford more blackboard space. Those assigned to this class are children not likely to become blind if placed under suitable conditions.

Their work may be divided into three phases: oral, written and manual. The oral work is done in the regular classroom, where they are assigned their own seats. Here they recite oral arithmetic, history, geography and language. This not only releases the special teacher that she may give attention to other children, but brings these pupils into competition with their fellow classmates. Written arithmetic, spelling and a limited amount of reading are done entirely upon the blackboard. In addition to the blackboard on the wall each pupil is provided with a blackboard attached to a rack on his desk. Pupils above the third grade are taught

to write on the typewriter, using the touch method. This enables them to do much of their written work without any eye strain whatever.

Some investigation has been made of the relative legibility of type faces. A font of thirty-six point "clear face heavy type" has been purchased, and some textbooks are to be prepared in this large type for the use of pupils to whom such reading will not be detrimental. The paper to be used in these textbooks is an unglazed book stock with a slightly yellowish cast. This kind of paper will eliminate glare, as well as the violet ray held to be injurious to weak eyes.

The manual training of these pupils is similar to that given in the other centers. Much emphasis is placed upon training these children to use their hands without looking closely at their work. A special teacher instructs them in sewing, following the same course as that pursued in teaching the totally blind. The room is equipped with a range, a sink with hot and cold water, and other cooking facilities. The girls are to be taught plain cooking and serving.

No one is admitted to this class except upon recommendation of the Ophthalmic Branch of the Medical Inspection Department. Children whose eyes show progressive decrease of vision even under the most favorable conditions and those whose vision cannot be improved above $\frac{1}{10}$ are referred to the classes for the blind, where they are taught to read with their fingers; but those having a myopic refraction error of not less than five diopters, and those having opacities of the cornea or abnormalities of the lens, whose vision cannot be improved above $\frac{6}{21}$ in either eye, are referred to the class for the conservation of vision. The teacher in charge receives definite advice from the eye specialist regarding the amount which each child may be permitted to use his eyes. The pupils are kept under close observation by the Medical Inspection Department, and every effort is made to build up their general health as well as to conserve their vision. The size of this class should be limited to about eight children if the most effective work is to be done. It is hoped, however, that after a few textbooks have been prepared, this number may be slightly increased.

Much good, it is hoped, will result from the work of such classes. Many children now bringing on conditions in their school work which will result in blindness in later life will be relieved from eye strain to such an extent that the defect may be largely corrected. This class will also enable many children to continue their studies who in the past have been obliged to withdraw from school, owing to temporary eye difficulties.

4. METHOD OF LONDON CLASSES.¹

THE MYOPE CLASS.

The first necessity for the successful establishment and working of such a class or school is that it shall be associated with an ordinary school for normal children. The myope class must be considered and worked as an integral part of this school. The reasons for this prime necessity are three: (1) a better scheme of work can be provided by this association; (2) to establish the class as a separate unit is to run the risk of the children leaving school with a special mark upon them; (3) parents naturally object to any suggestion of their children being marked out as belonging to a particular class of defective children, even though it may be for their good, and for this reason the attempts which have been made to copy the London experiment in the provinces by establishing myope classes within the existing blind schools have proved a failure. It cannot be too definitely insisted upon that the only possible means of making these classes a success is by associating them, both in their practical working and in their classification, with the ordinary schools; for that reason in London they are always spoken of as "classes" and never as "schools." The scheme of work laid down for these classes is as follows: —

(1) Oral teaching with the normal children, for such subjects as can be taught orally.

(2) Literary work, such as is necessary for the knowledge of the ordinary means of communication, to be learned without books, pens or paper, but by the use of blackboards and chalk, the writing to be done free-arm fashion.

(3) A very full use of every sort of handicraft that will develop attention, method and skill with the minimum use of the eyes.

After four years' experience with the experimental class, and the extended observation of the work in two other larger classes, it has been found quite possible to carry on the teaching of children in this manner, and the experience has shown that the scheme is not only a success, in that the condition of the eyes of the children under observation has remained as satisfactory as could be anticipated, but that it is a success from the attraction it presents to both teachers and pupils. Both enjoy it, notwithstanding that for one of these parties, the teachers, the method

¹ From "The Education of High Myopes," by N. Bishop Harman, F. R. C. S., "The Braille Review," September, 1913.

calls for a degree of alertness and constancy of effort that is not the rule in ordinary teaching. An essential difference in the basis of the teaching required under this scheme was early demonstrated. The teachers found themselves cut off from the regular stand-by of modern teaching, whether of normal children or the blind — the book. They could no longer hand over a textbook to the children; they had to give out something from themselves, and make their own conception of the lesson so definite that they could convey it to the child without adventitious aid other than the most primitive materials, — chalk and a wall. They had to do real teaching. It was, therefore, no cause for wonder that in the beginnings the teachers themselves had to be shown how to do things, and the readiness, intelligence and suggestiveness of their efforts, in face of the difficulties of the makeshift conditions of the initial experiment, have made it a success.

THE CLASSROOM.

The one necessity of a classroom for myopes is perfect natural illumination. The windows must be in such size in relation to the floor space that there is on an ordinary day at least 15 feet candle illumination on the wall opposite the window, and at a height of 4 feet from the floor. The windows should be on the left-hand side of the children's desks; windows on the right-hand side in addition to those on the left are permissible if the sills are at least 6 feet above the floor level; indeed such windows, or top lights, are an advantage in these rooms, on account of the amount of handicraft work done in them. Windows on several sides of the room are objectionable unless they are placed high up in the walls, for they limit the available wall space for blackboards.

Artificial lighting for these rooms is a negligible consideration. All work other than drill, oral lessons or games is suspended immediately artificial light is required.

No special equipment other than table and blackboard provision is required. The ordinary school desk is unsuitable, and a special desk¹ designed by myself has been in use since 1908. The first batch was made by the pupils at one of the deaf schools. The desk has proved satisfactory, and is now the ordinary equipment of these classes. It provides for each child a full-sized blackboard, suitably sloped and at a convenient height for sitting, and also a full-sized horizontal table for handiwork. It is convertible from one use to the other by merely lifting the board. Each room has fitted all around the walls a band of blackboard. The boards are fixed from 3 to 6 feet above the floor level, so that they are available for both teachers and pupils without adjustment, and none is provided. In one school where the wall space is limited the writing surface is increased by the provision of continuous sheets of dull "oiled-baize," or "American cloth," fixed onto parallel rollers fitted to the wall; the black cloth runs over these rollers like a huge jack towel and gives a very large surface.

¹ The myope desk is made by Messrs. Hammer of Charing Cross, London, W. C.

The use of a hall or a room clear of furniture is essential for the satisfactory working of these classes. Prolonged sitting or close work of any kind, even when it is so simple that it entails little use of the eyes, is bad for these children. For this reason none of the furniture of the ordinary classrooms occupied by them is fixed to the floor; the myope desks and chairs are easily moved to the walls and the floor space cleared. Further, a bare floor space permits of a variety of methods of teaching, both useful and attractive, which cannot be undertaken in an ordinary classroom.

THE SIZE OF THE SEPARATE CLASSES OR FORMS.

The myope class comprises many separate classes, grouping children of the several standards of attainment and age. Each of these separate classes has a teacher, not necessarily one for each class, for the arrangement of the time-table allows of an alternation of the work of the teacher. When one group of children is taking oral lessons with the normal-sighted in the ordinary school, the teacher will be employed in giving lessons requiring writing, arithmetic or manual work to another group. The number of children that any one teacher can deal with at the same time must of necessity be less than the same teacher could cope with in an ordinary school. Individual teaching is much more necessary for these children than for ordinary children, if only it be because there is the constant necessity of guarding against bad habits of stooping and peering at work. Further, the desk fitting—the combination blackboard and table—takes up the room of an ordinary twin desk. Experience shows that the greatest number any teacher can deal with successfully in any class working at the same subject and at the same time is 20. But these conditions do not obtain at the present. The numbers of children are too small to afford such large groups of the same age and attainment, and in practice the teacher often has to run two separate classes, say of Standards III. and IV., at the same time. Under these conditions 20 is too large a number. Twelve would be the optimum number. With that number of children the teacher should be able to give to each child a fair share of individual attention, discover the particular difficulties of the child, and secure a result that could not possibly be approached under more crowded conditions.

THE CURRICULUM.

The oral teaching is taken with the normal children in the ordinary school with which the myope class is associated. By this means the myopic children are kept up to the standard of knowledge of their normal colleagues, have the benefit of mixing with them in class and the oversight of the regular teachers. There is no difficulty in the arrangement; it is merely a matter of planning a convenient time-table, and the recognition by the teachers in the ordinary school of the particular difficulties of the shortsighted children. It has the added advantage that it keeps before the ordinary teacher the elementary principles of the care of the eyes,

which they are perhaps likely to forget when all the defective children are withdrawn from their care.

The literary work of the children is done in the myope class upon the blackboards provided for each child, and upon the wall-boards. . . . The small script of thin white lines, usually seen on the boards of the ordinary classrooms and in lecture theatres, is quite out of place in these classes. Letters must be large and the chalk lines broad and strong, and to secure this the chalk supplied should be square-edged, and of double the measure of the stock size. The small desk blackboards are marked with white lines two inches apart, and the wall-boards 4 inches apart.

In the higher standards the want of some permanent record of the work of the children was felt; the essentially temporary character of blackboard work did not seem altogether satisfactory; mistakes were so easily corrected that carelessness was engendered. In the higher standards exercise books are being tried of a distinctly novel pattern. They are made up of large black paper sheets,¹ and the writing is done with white crayon, which gives a record of fair durability, but it can be washed off if desired. The exercise books are clipped onto the desk blackboards, and the writing is done free-arm fashion as though on the blackboard, so that none of the dangers of ordinary writing, such as stooping over the work, are involved. The eldest of the pupils are allowed to make a permanent record of their work by printing. Two sets of printing types are provided for the use of each class. They are rubber-faced, block-letter types, one of 1-inch height, the other of 2-inch height.² These are mounted on wooden blocks fitted with lateral pegs and holes, so that they can be joined together to form words. The words are set up and printed upon large sheets of white paper; the record is permanent, and goes to form a class library of scrolls which are useful for subsequent teaching. This device has done away with the necessity of invoking the aid of the professional printer to provide some form of literary matter which could be hung up in the sight of all the children, and read with comfort by even the children in the back row. The printing itself is an admirable training in care and exactness, and is greatly liked by the children; in fact, it becomes one of the prize tasks of the class.

Drill and games enter largely into the time-table, and attempts are made to associate some of the games with the instructional work; *e.g.*, large sheets of scenic canvas³ are now supplied to two schools that have sufficient floor space, and on these the teachers paint outline maps of different countries, marking out the position of the principal cities, rivers, mountains, etc.; the children walk about on the floor maps pointing with sticks to the different spots and marks, learning their geography

¹ Black paper exercise books are provided by the British and Foreign Blind Association, Great Portland Street, London, W.

² The rubber printing blocks are supplied by Mr. E. M. Richford, Snow Hill, London, E. C.

³ The scenic canvas is obtainable up to 72 inches wide in two qualities: the better is known as long flax canvas, the inferior as jute canvas. It can be had from Messrs. William Good & Son, King William Street, E. C.

by traveling it in miniature. With a teacher of resource such methods of instruction possess endless possibilities of interest.

The most difficult section of the work to arrange is the manual training. Whatever the work done it must be such that the fixed attention of the eyes is not demanded. For that reason all sewing work is prohibited; it has been tried with a few of the elder girls, but was quickly stopped. Knitting, on the other hand, fulfills the necessary conditions; a child that has any aptitude for it soon learns to do it automatically and with little use of the eyes; such children are allowed to practice it. The junior children (both boys and girls) are taught paper folding, stick laying, felt weaving in colors and knitting. The seniors and some juniors are taught modeling maps, rough wood work, where measuring can be done with rulers marked with minimum $\frac{1}{4}$ -inch marks. Advanced basket work is taught according to the advanced scheme on workshop principles (but not including raffia work, which is too fine). Bent iron work is satisfactory, particularly for boys; possibly also the netting of hammocks, tennis nets, etc.; for the girls cookery and laundry of a simple kind, just sufficient to give an intelligent insight into the arts of housewifery.

The teaching of manual work to these children is not done with the same object in view that pertains to the teaching of the blind. With the latter the teaching is done with the view of the blind child subsequently earning a living by means of that particular work, — basket-making, mat-making and so forth. With the myopes it is quite different; these crafts are taught merely as a training in attention and care; it is not intended that any of them should enter into competition with the blind in doing these works; for that reason any particular work of this kind is not continued to the point where rapidity and skill are reached.

The scheme of education in view for the myopes is not merely technical but general. Many of these children are of high intelligence, and a good general training, with special attention to the development of thought, initiative, a good bearing, and clear speech free from objectionable accent and idiom, will fit them for positions of usefulness and responsibility of the in and out door type, such as small traders, collectors, agents, visitors, etc. This kind of occupation presents no risk to the eyesight.

The myopes drill in company with the normal children; they are also allowed to play with them so far as possible. But many of these highly myopic eyes are very frail and unnaturally susceptible to injury. To give the teachers guidance in this matter lists are kept of the average and special cases. Those on the special list are limited in their games and drill to the mildest and least risky performances, and during school hours they do not play with the normal-eyed children.

5. EYESIGHT AND DELINQUENCY.

Illustrative case from fourth report of social service work at the Massachusetts Charitable Eye and Ear Infirmary:—

Take, for example, the case of a man, forty-eight years of age, who was sent to us one day, ragged, emaciated, almost helpless without the glasses which had been broken a few days before. His record with the public and private charities of Boston and other cities was a very bad one, — idleness, drink, immorality, neglect of his children. The hospital found a condition of high myopia, which had been corrected only after the man had passed his twenty-fifth year, when he had thoroughly learned the lesson of idleness; and the rest had followed easily. All his life he had been handicapped; in school, where his fellow-pupils who had better vision left him far behind; later, when work was difficult to find and, for him, almost impossible to keep; and later still, after glasses had been found to help the vision, by the habit of idleness and its attendant evils, acquired through little fault of his own. There was no doubt about his very bad record, but the hospital finding left much doubt as to his individual responsibility for it. Though our report could, of course, make no difference in the action of any charitable society in such a case, as present conditions must govern action, it would essentially change the attitude and modify the message to the public in regard to this physical misfit.

THE RELATIONSHIP OF VISUAL DEFECTIVENESS AND MENTAL
INADEQUACY.¹

The occurrence of the various physical stigmata of degeneracy, *i.e.*, physical defects or anomalies, has been thought to be of somewhat greater frequency among the feeble-minded than among persons fully equipped mentally. Among these physical stigmata are defects of the special senses.

The relationship of mental and visual defectiveness is not one of cause and effect, generally, but one of association. A marked visual defect is a contributory cause in the inefficiency of an individual, but it is not *per se* a cause of mental enfeeblement, since feeble-mindedness is a congenital defect, or is traceable, almost without exception, to some other accident. While the development of the young is retarded, in some degree at least, by any defect in any of the special senses, yet visual defectiveness is not a direct cause of mental defectiveness.

In judging of the relative frequency of occurrence of visual defectiveness among prisoners on the one hand, and among young males of similar social standing not incarcerated on the other, the fact is not lost sight of that systematic search for the visual defects of prisoners is made and they are discovered, while it may be safely assumed that in the rather

¹ GUY G. FERNALD, A.M., M.D.

shiftless class from which prisoners come there are many undiscovered cases of visual defectiveness.

In a small group of cases at the Massachusetts Reformatory a recent classification on the basis of mental status supplies available data for the computation of the relative frequency of visual defectiveness among the mentally well equipped and those less well equipped.

Of the 213 comprising the group, 167 were of "normal" or of "sub-normal" grade mentally; i.e., they were regarded as capable of reformation or of supporting themselves honestly. Forty-six, or about $21\frac{1}{2}$ per cent., are classified as so far defective mentally as to be in need of surveillance if they are to be returned to the community. Of the 167, 30, or 18 per cent., had defective vision in one or both eyes, and of the 46 defectives, 14, or 30 per cent., were similarly afflicted. For the purpose of the computation, visual defect is regarded as inability to read the Snellen test type "40" at 20 feet with at least one eye, i.e., a visual defect of twenty-fortieths or one-half.

It will be observed that in classifying both as to mental ability and visual acuity, an arbitrary line of demarcation is drawn, and it follows, of course, that a variation of this line in either of these groups would disturb the relationships quoted. Furthermore, the size of the group is too small to admit of definite conclusions being drawn. Hence these findings are of comparatively little value as demonstrations. All that can be claimed is that there is an apparent tendency.

FROM THE MASSACHUSETTS REFORMATORY RECORDS, 1913.

There were 578 arrivals in the year. Among these, 110 cases of eye trouble were found at the time of the physical examination on arrival, all of which were referred to an optometrist for the correction of errors of refraction, or were treated by an ophthalmologist.

Number having markedly defective vision ($\frac{2}{8}$ %, or $\frac{1}{4}$):—

In one eye only,	38
In both eyes,	31
Total,	69

Seven of these were found not to require lenses. None were totally blind. Six were sent to the Massachusetts Eye and Ear Infirmary for a specialist's advice, and one is listed to be sent there.

This group is distinct from that forming the basis of the computation accompanying, and is submitted simply to give information of possible interest to the commission. It should

ONCE UPON A TIME THERE WERE
THREE BEARS. THEY LIVED IN A
HOUSE OF THEIR OWN IN THE
WOODS. ONE OF THE BEARS WAS
A GREAT BIG BEAR. HE WAS THE
FATHER. ONE OF THEM WAS A
MIDDLE-SIZED BEAR. SHE WAS THE
MOTHER. ONE OF THEM WAS A
TINY LITTLE BEAR. HE WAS THE
BABY. THESE BEARS HAD BOWLS
FOR THEIR SOUP. THERE WAS A

be noted that the group of 110 cases above comprises not only those having visual defects, but includes all having eye troubles and, further, that cases referred to the optometrist often have an index of twenty-thirtieths. This being the case, these two groups are not comparable. Furthermore, the 578 arrivals have not yet been classified as to mental status.

II. REPORT OF THE FIELD AGENT FOR CONSERVATION OF EYESIGHT.

1. SYPHILIS.

The study of causes of blindness, consistently fostered by this commission, has progressed so far that it was possible, last summer, to announce that, among the cases of practical blindness occurring in three Boston hospitals during two years, at least 6 per cent. were due to syphilis. To enable the health authorities to deal with this situation, a bill was drafted by the agent for conservation of eyesight, empowering the State Board of Health to require the reporting of diseases, as it might see fit, without the publicity required by earlier provisions of law. Under this bill, now chapter 670 of the Acts of 1913, the State Board of Health is in a position to secure information important in the limiting of this disease by requiring, for example, that hospitals and clinics report syphilis case by case. With the additional appropriation requested this year for the making of tests, a beginning will have been made in the State control of a disease more threatening to eyesight than ophthalmia neonatorum.

2. GLAUCOMA.

Glaucoma has long been recognized as causing a very great amount of blindness. In this commission's study of causes it has been found responsible for 15 per cent. of the cases considered. Recent surgical and other developments, by increasing the chances of cure, make it more than ever imperative that cases of glaucoma should not only be recognized and recognized early, but should receive the most expert care. This commission has begun a campaign of education by distributing a leaflet calling attention to the symptoms of glaucoma, among other diseases, and pointing out the dangers of inexpert treatment. Only by the co-operation of all public health agencies, however, in making expert care more generally recognized and more widely accessible, can glaucoma be minimized as a cause of blindness.

3. PUBLIC INSTITUTIONS.

Both syphilis and glaucoma may easily do their worst wherever expert care is not easily available. It is therefore cruel to segregate patients suffering from such diseases in State institutions where the medical facilities of the outer world are not reproduced. For example, a man, C, in the later stages of syphilis, was confined in a State institution where a well-known oculist is a consultant. During the whole of the last year of C's confinement the general physician in charge failed to call in this consultant. C's eyes were involved; and when at last he was discharged it was too late to save them both. Again, in another large State institution, a patient previously treated for glaucoma by an excellent oculist was supposed by the general physician examining him to be suffering from cataract, a totally different disease. The oculist was not called in, and the patient was deprived of the treatment necessary for his disease. Only after three months was he transferred to the Massachusetts Charitable Eye and Ear Infirmary, where his obvious needs were again recognized.

Are not these instances enough to show that the system in vogue in so many of our State institutions is unsafe? Do they not show the danger of leaving a general physician to call a consulting oculist when he happens to realize the need? And do they not also point to the importance, in all large public institutions, of securing the services of expert oculists to examine the inmates' eyes at regular and frequent intervals, and give treatment as needed. This is done at the Industrial School for Girls at Lancaster.

4. INDUSTRIAL EYE INJURIES.

The co-operation of the State Industrial Accident Board in work for the preservation of eyesight has substantially forwarded the cause of conservation of eyesight this year. Not only has the Board reprinted this commission's circular on industrial eye injuries; it has sent the circular to every workman reported as suffering from an eye injury, and, what is quite as important, to the workman's employer. In the administration, moreover, of the workman's compensation act, the Board has

done positive service to the cause of good eyesight. For example, in at least two recent instances where the removal of an injured eye was necessary to preserve the sight of the other eye, a member of the Board was able to convince the injured workman that the operation was advisable. And thus these injured men were saved from probable total blindness.

The definition of industrial blindness, in either eye or in both, which was written into the workman's compensation law at the instance of this commission, is still the fairest known to us in American law; and the resulting extra compensation paid to workmen with vision reduced to one-tenth of normal, in either eye or both eyes, with glasses, furnishes a strong motive, both to employers and to insurance companies, for insisting on the use of all practical safeguards. It remains to be determined whether fairness does not require further special compensation to men whose usefulness in skilled trades is destroyed or impaired by reduction of vision to one-third of normal, in either eye or both eyes, with glasses. If so, such an amendment to the law might give still further impetus to the movement for industrial safeguards for eyesight.

5. EYE DISEASE AMONG SCHOOL CHILDREN.

The special report on seriously defective eyesight takes up the question of eyesight among school children to an extent making it unnecessary here to consider any school problem except that most prevalent of serious eye diseases, phlyctenular keratitis. Far too common, especially in our mill cities, are cases of ulcer resulting from this disease, and of the scars with which they obscure the otherwise transparent "porthole" of the eye. The danger of partial blindness from this cause has been variously pointed out to schoolmasters and school physicians. Not only understanding, but means and the will to use them, are necessary, however, if school children with phlyctenular keratitis are to receive, not only the local treatment, but the admission to fresh-air classes and the adequate feeding which their disease demands. Whether phlyctenular keratitis is "an attenuated form of tuberculosis," as eminent authorities maintain, or only a disease appearing with suspicious frequency in tubercular families, the increasing strength of the anti-tuber-

culosis campaign will aid, it is hoped, in securing more and more widely for these children the conditions most favorable for the preservation of their sight.

6. OPHTHALMIA NEONATORUM.

A special inquiry among oculists, eye clinics, lying-in-hospitals, etc., established a strong probability as long ago as last spring that less than 2 per cent. of the new cases of blindness occurring in Massachusetts during 1912 were due to ophthalmia neonatorum. Among the new cases of blindness, moreover, which were reported by this commission between Dec. 1, 1912, and Dec. 1, 1913, those due to ophthalmia neonatorum were again less than 2 per cent. of the total. It must be remembered, however, that the children made blind in one eye by ophthalmia neonatorum outnumber those who become blind in both eyes, about three to one, and that these one-eyed children will run at least a double risk of losing the remaining eye at some later period, either through accident or through disease.

In spite of the follow-up work done both by the State Board of Health and by a number of local boards of health, the babies made blind by ophthalmia neonatorum during 1912 were, almost without exception, victims of low standards of medical treatment. This commission pointed out in its report for last year that even a minimum standard of treatment would require the constant attendance of at least one registered trained nurse under the supervision of an oculist or of a physician especially familiar with the disease. Where no such oculist or physician is in charge, and where no registered trained nurse is in attendance, the resulting blindness almost certainly spells neglect.

The following four cases of blindness from ophthalmia neonatorum, known to have occurred in Massachusetts during the last twelve or thirteen months, have all received care falling below the level of even this minimum standard:—

Case 1. — E. was born Nov. 4, 1912, in Boston. Mrs. V., a midwife, in attendance. As the midwife failed to report the birth, the Boston board of health was unable to send a nurse on a visit of inspection and advice. The eyes were "sore" on the second day after birth. Neither

a physician nor a nurse was in attendance from that time till April 14, 1913. The child is practically blind.

Case 2. — C. was born November 24, 1912, at a large maternity hospital in Boston. The symptoms appear to have been observed within a few days, but were not reported to the Boston board of health till Jan. 2, 1913. No oculist was consulted. When the child was transferred to the Massachusetts Charitable Eye and Ear Infirmary, on January 3, one eye was blind and the other so seriously involved that the child will probably never be able to attend a school for the seeing.

Case 3. — H. was born March 12, 1913, in Lawrence. The doctor in attendance, though registered under the laws of this commonwealth, is a graduate of no medical school. The eyes became "sore" on the day after birth. There is reason to believe that the doctor observed the symptoms on that day, and again when the baby was two weeks old. He did not report to the board of health. He prescribed no treatment. On April 25, when the child first received expert care, the disease had progressed so far that practical blindness could not be prevented.

Case 4. — C. was born June 18, 1913, in Everett. Symptoms were observed and the case was reported on the second day. Treatment was prescribed by Dr. Q., apparently not an oculist, and carried out by Mrs. D., apparently not a registered trained nurse. When transferred to more expert care on July 15, the child was practically blind.

In the first of these cases the midwife's fine of \$10 can hardly be said to measure the damage to the State in the blinding of one of her citizens. In the second case, the physician was not fined at all, since the judge saw fit to refuse a warrant. In the third case, the physician was brought into court by the Lawrence board of health, but, after unexplained changes of testimony by the witnesses, was acquitted. In the fourth case, no law was broken; but as the physician in charge is a member of the Massachusetts Medical Society, the facts have been laid before its authorities.

The disciplinary measures just mentioned have been extended to other cases involving less serious damage. Another midwife, pleading *nolo*, has paid costs to the amount of \$12; two physicians prosecuted by the Boston board of health, and a third prosecuted in Holyoke by the Massachusetts Society for the Prevention of Cruelty to Children, have been fined \$50 each; and six more, members of the Massachusetts Medical Society, all involved in cases of apparent neglect and three in apparent violations of the law, have been referred to the president of the society.

Important as such disciplinary measures may be, it is still more essential that at least a minimum standard of treatment be set up and enforced to the end that blindness from ophthalmia neonatorum may be, not avenged, but prevented. Under the present system of public health administration, the local boards of health, responsible under the law, have adopted no uniform standard. The State Board of Health, on the advice of whose district medical inspectors the local boards often rely, has no authority to enforce proper treatment. In these circumstances of divided moral responsibility, this commission introduced a bill into last year's Legislature which, as amended, empowered the State Board of Health to recommend rules for the treatment of ophthalmia neonatorum which it would be the duty of the local boards to carry out. The bill, passed by the House, was defeated only in its final stage in the Senate. Its passage would have done much to minimize the crime of preventable blindness from ophthalmia neonatorum. Equivalent legislation should be passed this year.

Improvement of our medical, and especially our obstetrical, service is, meantime, essential to the prevention of blindness from this disease. Without it cases will inevitably recur in which signs of danger have been observed only by the mother or by some ignorant attendant. No report, therefore, will be made to the local board of health; and the measures taken to prevent blindness will be useless or worse. Half of the babies whose histories have been given above became blind under just such conditions. To save the babies born to ignorant and especially to foreign mothers cheap and reliable maternity service must be provided. Particularly in our manufacturing cities and towns, where a largely unassimilated population drifts between the devil and the deep sea of incompetent midwifery and medical practice unworthy of the name, maternity clinics or their equivalent should be founded and maintained. Only by such means can prospective mothers be given — before, during and after labor — the safe medical and nursing care necessary to the physical salvation of both mother and child. With brilliant exceptions our mill cities and towns cannot alone furnish this necessity. Unless midwives are to be licensed to do, less competently, this essential work, some central

agency to encourage and standardize local maternity clinics must be established.

Meantime, local boards of health are doing much, and can do still more, to educate prospective mothers. Prenatal and infant welfare nurses are the ideal agents for this work. Where their persuasive and personal teaching cannot be had, the distribution of leaflets to the mothers of new-born babies becomes doubly important. An admirable leaflet on infant welfare including the preservation of eyesight, is now furnished to local boards by the State Board of Health. It should be translated and republished in all languages spoken by any significant number of our immigrant mothers.

III. RELIEF.

Following are extracts from the report of the general superintendent, as chairman of the committee on aged, infirm, dependent and homeless blind, of the American Association of Workers for the Blind, June, 1913: —

INTRODUCTION.

At a legislative hearing last winter, on an entirely different subject but relating to work for the blind, a member of the legislative committee happened to mention, quite incidentally, the word *pensions*. Three men in the audience instantly sprang to their feet and struggled for a hearing. It turned out that one was *for* pensions, one was *against* pensions, and one was for pensions under certain special conditions.

This is a fair picture, not only of the pension question, but of the status of the whole relief question for blind and sighted alike. There is no question but that more adequate provision is needed for the care of aged, infirm, dependent and homeless blind. We agree upon that, but it is not often that any two people agree upon the way to secure it.

SOME CONDITIONS ALL MIGHT AGREE UPON.

First. — There will be no *one* way in which pecuniary aid may best be secured in a given State.

Second. — There will be no way which will apply to all States.

Third. — There will be no answer which will really satisfy for, reluctant as we are to face the fact, money alone does not straighten out the life problem of people, blind or sighted.

Fourth. — Whenever and however relief is given, *public or private*, for the blind or sighted, it must be done in a way that will make the individual and the community the better for it.

Fifth. — Whenever relief is given *by the State* to the blind or sighted it must be in a form that is fair in proportion to the service that has been or can be rendered the community by the individual. Please notice that I do not say *fair in*

amount. It usually costs more in money, time and energy to provide for those who make the least or no return.

Sixth. — If there is no possibility of return in character or industry, the relief, *at the hands of the State*, would best be institutional, in order that the manner of life may be more or less directed, and if necessary the individual and the community protected.

SOME FACTS ABOUT THE PROBLEM.

Who are the human beings concerned in this relief question, and what do we know about them?

There are infirm, there are dependent and there are homeless among blind children and youth, among men and women from twenty to sixty years of age and among aged men and women.

The needs of blind children dependent or homeless are in the case of Massachusetts largely provided for through the special agencies of nursery and school. These are supplemented by public and private relief agencies that serve for sighted and blind alike. Infirm blind children are provided for just as the seeing are, — adequately in the case of epileptics, well in the case of many physical infirmities and inadequately in the case of the feeble-minded, — so far as numbers are concerned. For all who are fortunate enough to be admitted to the School for the Feeble-minded, the best care the world has yet seen for this class is possible, but there is not enough to go round.

The needs of mentally infirm blind men and women between the ages of twenty and sixty are provided for, as among the seeing, — adequately in the case of epilepsy and insanity, inadequately in the case of the feeble-minded. The entirely dependent and non-productive and those who are homeless and non-productive are provided for like the seeing, by public and private outdoor and indoor relief. Among these are people who could be made happier and more comfortable by special funds.

Dependent or homeless blind, capable of work and partial self-support are employed, so far as possible, in special workshops for the blind, and their earnings are supplemented by

public or private outdoor relief, or both. Among these are many people who will benefit if the work of the State commission is enlarged to meet their needs. Among these are some who when their working days are over are likely not to have families able to provide for them and are likely to need substantial relief. A few, victims of industrial accident and perhaps industrial disease, will be somewhat compensated under the new workmen's compensation law.

The needs of the aged blind are met, as among the seeing, by public and private outdoor and indoor relief. They are also met by special relief through a small private home, and in one section of Boston, through a small private fund for the blind. There are many among the aged who could be made happier and more comfortable by special funds, but it is also true that very many are blind after long lives as seeing people, and will best be provided for among the seeing. A very large proportion, too, of the aged are happily members of comfortable families.

SOME FACTS ABOUT WHAT HAS BEEN DONE SO FAR.

The Massachusetts commission, directed to study the conditions of the blind, but prohibited from using its appropriation for "permanent maintenance" of blind persons, has thus far reported as follows, on the subject of relief. In the fifth annual report, 1911, it says: —

Extension of Special Relief. — For the past five years we have met daily questions concerning relief for the blind, and have proceeded upon the plan that in matters of aid the blind should face the same conditions as the seeing, unless private philanthropy is moved to provide special pensions and homes. We are of the opinion that the relief should be private, partly because of the present unsettled status of these questions for the seeing, as well as for the blind. Therefore we would urge upon philanthropists the appropriateness of this kind of provision, — the granting of relief, whether by pensions or through an institution like the Worcester Memorial Home, to be always contingent upon economic need as a result of blindness, together with a reasonable standard of conduct and living. We believe in a relief system which will provide either a regular annuity at home, or an admission fee to a home for the seeing or to a home for the blind; and, judging from the cases that have come to our attention during the past five years, there seems to be need for a relief fund for at least

200 blind adults of this State who are of good character and who are in want of this species of aid.

Their need arises from (1) age and infirmity; (2) physical or nervous incompetence; and (3) small earnings requiring to be supplemented.

This flexible system of aid would do much to relieve many distressing situations among the blind of Massachusetts, and is, we believe, in accordance with the principle that human beings should be segregated on the basis of a common handicap only when it is necessary for purposes of education or employment.

In the sixth annual report, 1912, the commission says again: —

Need of Private Relief for Disabled Blind. — In this connection it should be pointed out that of the 4,000 blind in the Commonwealth, a great number is not in need of help of any kind from the State, another considerable number is being educated in such schools as the Perkins Institution, and a third large body is beyond the range of the commission's permitted activities, being so enfeebled by age or illness as to make its members subjects for that "permanent maintenance" which it is forbidden to the commission to provide. As in several preceding reports the commission desires again to call to the attention of the generous citizens of the Commonwealth the serious need of this group of incapacitated blind men and women, urging that definite provision, in connection with existing homes or through private indoor relief, be made by adequate gifts or bequests.

In the fifth annual report on the subject of removing the blind from almshouses, the commission says: —

Almshouse cases, which have not stayed too long, may prove satisfactory workers in our industries. Even very difficult and complicated cases, if the men are industrious and show the right spirit, can be provided for. In reply to special inquiries on the point a study has been made to show our experience with almshouse cases during the past five years, as follows: —

Efforts to take or keep Blind Men from Almshouse.

In studying the cases of 20 men whose needs were called to our attention, either as they were about to enter or after they had entered the almshouse, we find that 9 have been kept successfully occupied. Of the 11 for whom no efforts or for whom unsuccessful efforts were made, either illness, bad conduct or previous long stay in the almshouse, sometimes all these conditions, have explained the failure. In the 9 cases successfully employed, following were the conditions: —

Blind Men taken or kept from Almshouse, 1906-11.

AGE UPON COMING TO OUR CARE.	Age at Loss of Sight.	Length of Stay in Almshouse.	Physical Con- dition.	Oeeupation given.	Average Wage (Week).
36 (1907), . . .	36	No, . . .	Good	Rug making, . .	\$3
67 (1907), . . .	40-50	1 winter, . . .	Good	Cane seating, . .	\$2-\$3
48 (1908), . . .	36	8 years, . . .	Fair	Rug knotting, . .	\$4
34 (1908), . . .	32	A few weeks, . .	Good	Mop making, . .	\$9
47 (1908), . . .	34-47	2 years, . . .	Good	Cane seating, . .	\$5
40 (1908), . . .	15-30	12 years, . . .	Good	Broom making, . .	\$12
50 (1910), . . .	38	No, . . .	Good	Mattress making, .	\$7
54 (1910), . . .	15	7 years, . . .	Good	Broom making, ¹ .	-
53 (1911), . . .	46	2 years, . . .	Good	Broom making, ¹ .	-

¹ Still in training.

On the possibility of employment in a special institution for those who need relief, but are capable of some activity, they report: —

A group of less competent men than those now in our industries, who are capable of employment under special conditions, are as a rule dependent or homeless, and for whom a special farm with outdoor occupation for those with partial sight and simple industries for the totally blind is a possible solution.

On the subject of use of resources for the seeing for the service of the blind, the commission reports: —

It is to be recalled that many advantages of the community are open to blind as well as seeing, and that it is a part of our plan to help secure these advantages for blind persons coming to us. For instance, it can be stated definitely that from positions secured by us for the able-bodied in competition with the seeing and from relief secured for the more dependent from other organizations and funds, actual money returns have amounted to at least \$15,000 per year.

As the annual earnings of those placed through the Commission office in competition with seeing persons are \$4,000, this makes relief secured through other sources at least \$11,000 per year.

FACTS WE HAVE YET TO DISCOVER.

Now in going forward to a more definite program than Massachusetts has yet adopted, the three things we should like to know if we could are:—

1. In how many cases the economic situation of dependent blind is due to blindness? For example, we know that of about 2,000 blind persons over sixty in Massachusetts, at least 1,200 became blind after the age of sixty and have therefore failed or succeeded in life as sighted individuals. Again, we know that men and women who have had every advantage of education as blind people have not succeeded because of misfortunes of character, circumstance or limits of natural endowment.

2. How far may the needs of the blind be met by adequately extending existing resources which serve for blind and sighted alike?

3. Under what circumstances should special provision be made for them as a class, and how far can the needs be covered by extension of existing special foundations?

In Massachusetts the thing that stands out is the significance of the things we don't know and the great practical difficulty of securing a convincing answer as to the needs of those unprovided for. "It all depends" upon so many points hard to establish justly by statistics. Under these circumstances I am in favor of deciding upon certain principles, and proceeding with concrete experiments without further delay.

CERTAIN PRINCIPLES.

The general principles are two:—

1. That an economic, just and adequate plan for the relief of the blind can be worked out only in relation to a complete program for work for the blind in a given State.

2. That whatever plan is worked out must be worked out in relation to like questions for the sighted.

CENTRALIZED STATE ORGANIZATION.

It is impossible to talk intelligently on relief for the blind without taking into consideration a complete program of work for the blind. A complete program is the program which allows in the long run for the prevention of every bit of needless blindness, every bit of needless idleness and every bit of needless dependence. For example, many are in need of relief to-day who could have been helped earlier through an adequate industrial system for the blind.

What I stand for, for a permanent relief policy, will depend upon all the other things going on in the State that apply to the blind, but I should not stop to talk of a complete program *now*, if I did not believe it to be entirely and immediately possible to work out *now*.

In spite of the complexity of work for the blind, the limit of numbers is so distant that it should be one of the first groups for whom a complete program is made and carried out. This involves, first of all, centralized State organization. Several States have it, several are moving towards it. While many departments of work for the blind, notably, schools for those of the blind who are normal, have reached the highest point of excellence, it is still true that work for the blind is inadequate in point of numbers. Each special enterprise, be it school, shop or pension system, reaches a relatively small proportion of the blind population, and for some groups there is still no provision whatever.

Centralized State organization is necessary, not to replace private or public enterprise already undertaken, but to make things work together, to fill in the gaps, and in a reasonable time to "get under the whole load."

Centralized State organization is necessary as a foundation in the relief question, because the only possible way to study a group so small, relatively, and so varied as the blind is to do it case by case.

It is necessary in the relief question, also, because it's the only way to learn the actual size of the problem, to get the group as a whole. It is necessary, too, because until we have straightened out many allied questions — that of industrial

chances for all who need it, that of inadequate provision for numbers of feeble-minded, etc. — we have an accumulated relief problem which ought not to be accepted and perpetuated, and it will be if we begin at the wrong end.

It is necessary to the relief question, because whatever machinery we have for administering relief, public or private, there are many cases in which it is essential to have the opinion of the people expert in the subject of what may be justly asked and expected of human beings of various types and economic levels under the condition of blindness, before the form of relief can be decided upon. Please notice again that I do not say the amount of relief but the form.

LIKE QUESTIONS FOR THE SIGHTED.

I have made a second principle that whatever plan is worked out should be worked out in relation to like questions for the sighted. In my present opinion the only special appropriation of public funds for the blind as a class should be to equalize their chances socially, educationally, industrially, from the nursery through the school, home-teaching and subsidized shops to provision of reader in the course of higher education, asking always returns to the community in character and industry of the individual. The extension of these aids to every one capable even of only a small fraction of return would, I believe, cover many of the cases of the dependent and homeless.

It needs special machinery to equalize the chances of the blind in the ways I have described. If there exists a centralized State organization to pass upon the blindness involved, and make recommendations to relief organizations, and if relief is what it should be for all classes, there is no need of class legislation and added special machinery in the case of relief for the blind.

But I want to say that I believe in adequate and appropriate aid for seeing and blind alike, public or private.

I'm not through thinking about public funds specially provided for the blind as a class, but I will put to you the questions that are in my own mind, and without attempting to answer them try to tell you just how far I have got in thinking about them.

Among the points to be considered in asking that relief be public and that it be provided by legislation for the blind as a class are: —

1. Whether it can be adequate and sufficiently flexible to meet the real needs of the people in question.

It is improbable in my opinion that any State relief funds can be flexibly arranged to suit individual needs as can private funds. In the case of the blind it seems especially desirable that private funds be made available for peculiar needs. Even in industrial matters the State cannot always individualize to the extent needed. In Massachusetts it has been found wisest and best in many cases of loans, in all cases of gifts, and in unusual experiments, to have the freedom of private funds. In the personal matter of relief this freedom is even more important.

2. Whether public funds to the blind as a class is just to the blind and to the community.

It may be reasonable to give equal chances for industrial training and employment to a man needlessly blind through industrial accident and a man blind from disease acquired through his own fault. In that case both can make economic return, but is it just if both are incapacitated to make exactly the same form of provision for them? It may even be unsafe as well as unjust to provide for the diseased man outside an institution.

Another point in question is the justice of adopting for any physically handicapped class a relief principle to the exclusion of other physically handicapped classes.

3. Will such a plan of relief as special public funds to the blind as a class, in the long run, tend to develop good or bad human qualities?

The point here seems to me to be that in the case of all other use of public funds for the blind of which I have spoken they have the privilege of making some return to the community, however small. Some would no doubt have the wish and the force of character to make returns in conduct in any case. Others may have already made every possible return as, for example, men who have been through the working period faithful workers in special shops, but have been unable to provide

for their future, and whose families are unable to care for them adequately. But in the nature of the plan for special public funds to the blind as a class, good, bad and indifferent human natures will be treated alike when they should be treated differently, and would it be practical, with such a non-institutional plan, to do enough follow-up work to cover the ground?

4. Is it necessary? Have we any alternative?

The alternative which I believe to be entirely practicable would meet a greater variety of needs, bring more happiness, "conserve more good human qualities," as Miss Brannick says, be in every way more worth while and would, I believe, cover all the ground that money to the blind from public funds ought to cover besides.

The alternative would be: —

(1) Extension of specialized work for the blind.

(2) Certain modifications and extensions in public relief in general.

(3) Extension of several means of private provision for the blind in Massachusetts.

Now where does this bring us in that part of our program which bears on relief?

1. For the one group of infirm children whose needs stand out distinctly — the feeble-minded blind — Massachusetts is working, through its field workers for the blind, for individual cases and in general, by joining forces with other agencies who are working for adequate provision for the segregation of the feeble-minded.

2. For the supplementary aid necessary to equalizing chances for men and women of slight capacity, Massachusetts is doing case by case, through a State commission, what it can by use of existing public and private resources. One special resource has been added by private generosity in the James A. Woolson House. Others will follow, I am confident, in the development of a complete program, and the State appropriation should, and I believe will, be made adequate to allow for a chance for every single *helpable* individual in Massachusetts.

3. For the needs of those adults who are capable of making no return and are unprovided for and whose families are unable to provide for them, we are again doing, case by case, what is possible through existing agencies. It is not enough.

I hope that we shall make two things a part of our program in Massachusetts: —

1. To work for the increase of private funds, both for the support of an extension of the Worcester Memorial Home and for the increase of funds of the type of the Harris fund, in such a way that they can be applied to the needs of blind individuals, as the case may be, to supplement small earnings of homeless women, to pay admission fees for the blind, whether to homes for seeing or for blind, or to relieve them in their own homes or in private families, when that is happiest and best.

2. To ask for legislation which will allow, upon suitable investigation and recommendation, adequate relief from State funds in certain cases without the stigma of pauperism.

IV. EXPERIENCES OF BLIND PEOPLE.

Mrs. Jean Christie Root, who became blind at the age of sixty-seven and has since not only mastered sewing by touch and the effective use of the typewriter, but has written, re-written and seen published her book on Edward Irving, has generously contributed for the use of her "associates in blindness" the paragraphs following. Mrs. Root is now in her eightieth year and is actively at work on a small book which we all hope to see published by Easter of this year.

LESSONS LEARNED IN BLINDNESS.

No one can justly describe what is always considered a great calamity, that has been to a certain extent mastered, without some personalities not ordinarily permissible. I was well advanced in my sixty-seventh year when I became blind, rather old, one would naturally think, for accepting and following new, and, to say the least, undesired paths in life. But if blindness at one stroke seemed to dash from my grasp influence and habits of a lifetime's acquirement, it left me *myself*, stricken to be sure, as only one suddenly made blind can realize, shorn of most of my power to serve others, doomed in all my later years to be a constant care to somebody while serving others had hitherto been the joy of my life; but as I have already said I still owned myself and I was to learn that that ownership had really held some wealth previously unsuspected by me, and still less by my friends. Never rich as men count wealth, I was the undisputed heir of a heredity of body and brain that testing and endurance seemed only to strengthen; though this I now attribute even more than then to the fact that from my earliest days it had been my happy lot to be surrounded first by relatives, and later by other friends, who not only sincerely believed in God but cared above everything else earthly to be useful in their day and generation. So, from the first day, saying little of my own feelings but trying to encourage my family, I braced myself for my future.

Suddenly, one day while I was wondering what use I could possibly make of my broken life, the thought came to me, with the first strong thrill of hope that had swept across my brain since my sight had failed, "Why, now you have all the time

there is to write the book you have been longing to write for a score of years if you can only find the way." That was sufficient; here was possible work, — work that my whole soul was hungering for.

I have had many minor pleasures since that day, one notably on the day when I first learned that I could still sew by the aid of the calyx-eyed self-threading needles. That day is one of my red-letter days. No child ever hailed a new top, no art collector nor book fancier ever hailed a new acquisition, as I hailed that simple little needle that I could thread for myself as often as I pleased. Sewing had always been a nerve tonic to me, and I missed it sorely if silently. Ever since I have turned to my needle when unable to employ my hands in any other way.

Another red-letter day came to me when I learned that I could interest little children as a raconteur, even more happily than when I had been a successful teacher.

In the meantime, during these varied months, the plan of the book I had long wished to write throbbed daily more strongly through my brain. Thirty years earlier, under the shadow of a heavy bereavement, help had come to me from the writings of a man sadly misunderstood and misrepresented in the closing years of his life, whom I had intensely longed to describe to others as I had come to understand him. Too busy then to have any time for careful literary writing, I had gradually given up all hope of ever finding time for the work, and now, suddenly, here was the time, — all I could possibly require, — and now I must find the way. Practical when I could see, I was just as practical when I had ceased to see, and gradually gathered all the material needed for my work, most generously aided by the Yale library and one most valuable living authority. Securing an amanuensis for a couple of hours daily, I was alive again.

I wonder if it would be possible for any author, successful or unsuccessful, to get the faintest idea of what it meant to me, wholly inexperienced in general writing, actually to be allowed to begin a book that for years I had hungered to write.

The book grew apace. I learned that I could dictate more rapidly than I could previously write, in my best days; and blessed for a while with a competent amanuensis, and all the memorabilia necessary for my work, within a few months from the time of its beginning I had finished the first copy of a book of some four hundred pages, which, however, I wrote over and over again during the next five years. I need not say that far

more than I had given to the book it had given back to me. I was fully alive again, and had learned that into the utter darkness of the blind, light indescribable could enter.

Completed, the next thing to do was to find a publisher for the book, and now I at once stepped into the quagmire that has swallowed many a hopeful author. Some publishers even declined to read the manuscript, saying that my subject had ceased to interest the reading world. Some critics were very kind, but all alike decided adversely, and it was laid aside permanently, as I supposed, and I began to face other problems.

When, at last, half unwillingly, I had come to another door that stood wide open to welcome me and render me unexpected service, I had passed my seventy-fifth milestone, but what was that to a person whose fingers at least were still limber and whose brain was still active, and who had been brought by Providence, as it seemed, right to the door of the Commission for the Blind. On the receipt of my application for a teacher I was promptly visited by one of the State home teachers, and then began the first hard work I had ever known in learning anything. As a child my memory was so retentive that I had simply to read a thing once to hold it permanently. Now for the first time learning was uphill work, and I fear that if I had not been determined to write a Christmas greeting to a friend many years my senior, whose Christmas days I knew were numbered, I might have become discouraged and turned my back on my typewriter. I was determined to type that note and type it I did, going over the same simple greeting, failing time after time, resting a little, doing something else, and beginning over again on the note, always stimulated by my unwearied mentor. At length the note of a few lines was finished and forwarded just in time to reach its destination on my beloved friend's last Christmas day, to the astonishment of the whole family who had had no inkling of my campaign against the typewriter.

Now came a lull for a little while, and I went on quietly with my lessons, growing steadily a little more expert in typing and in reading, until I began rewriting my first book.

I began my book *de novo*, omitting many personal incidents I might wisely have retained and simplifying my style to express the more vividly an interest that had grown steadily stronger during my years of growing consideration and deepening faith in my subject. A book one-third the size of the earlier one was finished. Then what to do with it was again the question.

Finally, I bethought me that I would not depend upon my own estimate of the book, but submit it for criticism to one whose decision would determine its future. Receiving permission so to do, it was sent, and two gentlemen fully qualified to judge it impartially read it and with a few criticisms approved it. A few weeks later, through their encouragement, the book was developing its wings in the hands of a publisher. It has found its wings and gone abroad, and while making its way slowly, I have had the happiness of knowing that it is cordially indorsed by many competent critics.

In the meantime other work has come to me, not the least, if I can do it worthily, this little offering for the use of my associates in blindness.

May I add one word in closing; that if any soul ever found light in darkness, if God has ever proved Himself an all-sufficient refuge in many forms of distress, and changed seeming losses into unexpected gain, my lessons in blindness, so hard to learn, so precious once mastered, have been blessed to me beyond the telling.

There are a few words of cheer I would like to say to any made blind like myself in middle or later life. Do not be discouraged. After the first great shock is over, give yourself to quiet, practical thought as to how you can best meet the new problems, and begin at once to do, as well as you can, the first possible work. Little by little you will find that there are still services that you can render; still those whom you can hearten; and that if you will walk, one step at a time toward any future God may send, you will surely find as you go on that He is helping you. He is not partial. He does not help one and neglect another. To every one made blind who will accept them, He will surely send lessons as the years pass, in hope, in helpfulness and in peace.

APPENDIX.

APPENDIX.

I. ACT ESTABLISHING A COMMISSION FOR THE BLIND.

ACTS OF 1906, CHAPTER 385.

AN ACT TO ESTABLISH THE MASSACHUSETTS COMMISSION FOR THE BLIND.

Be it enacted, etc., as follows:

SECTION 1. There shall be a state board, to be known as the Massachusetts Commission for the Blind, consisting of five persons, to be appointed by the governor, with the advice and consent of the council, within sixty days after the passage of this act, one member of which shall be appointed for a term of five years, one for a term of four years, one for a term of three years, one for a term of two years and one for a term of one year. At the expiration of the term of any member of the commission, a member for the term of five years shall be appointed. Any member of the commission may be removed by the governor, with the consent of the council for such cause as he shall deem sufficient and shall assign in the order of removal.

SECTION 2. The commission shall be authorized to prepare and maintain a register of the blind in Massachusetts, which shall describe their condition, cause of blindness and capacity for education and industrial training. The chief of the bureau of statistics of labor is hereby directed to aid the commission by furnishing it from time to time, upon its request, with the names, addresses and such other facts concerning the blind as may be recorded by the enumerators in taking any decennial census.

SECTION 3. The commission shall act as a bureau of information and industrial aid, the object of which shall be to aid the blind in finding employment and to develop home industries for them. For this purpose the commission may furnish materials and tools to any blind person, and may assist such blind persons as are engaged in home industries in marketing their products.

SECTION 4. The commission may, with the approval of the governor and council, establish, equip and maintain one or more schools for industrial training, and workshops for the employment of blind persons, may pay to employees suitable wages, and may devise means for the sale and distribution of the products of such schools and workshops.

SECTION 5. The commission may receive in the schools established by it pupils from other states, upon the payment of such fees as the commission shall determine, and may at its discretion contribute to the support of pupils from Massachusetts receiving instruction in institutions outside the commonwealth.

SECTION 6. The commission, in furtherance of the purposes of this act, may provide or pay for temporary lodgings and temporary support for workmen or pupils received at any industrial school or workshop established by it, and may ameliorate the condition of the blind by devising means to facilitate the circulation of books, by promoting visits among the aged or helpless blind in their homes, and by such other methods as it may deem expedient: *provided*, that the commission shall not undertake the permanent support or maintenance of any blind person.

SECTION 7. The commission, with the approval of the governor and council, may appoint such officers and agents as may be necessary, and fix their compensation within the limits of the annual appropriation; but no person employed by the board shall be a member thereof. It shall make its own by-laws, and shall annually, on or before the third Wednesday in January, make a report to the governor and council of its doings up to and including the thirtieth day of November preceeding, embodying therein a properly classified and tabulated statement of its estimates for the year ensuing, with its opinion as to the necessity or expediency of appropriations in accordance with such estimates. The annual report shall also present a concise review of the work of the commission for the preceeding year, with such suggestions and recommendations as to improving the condition of the blind as it may deem expedient. The members of the board shall receive no compensation for their services, but their travelling and other expenses necessary for the proper performance of their duties shall be allowed and paid out of the treasury of the commonwealth.

SECTION 8. There may be expended during the present year a sum not exceeding twenty thousand dollars in carrying out the provisions of this act.

SECTION 9. This act shall take effect upon its passage. [*Approved May 11, 1906.*]

II. MASSACHUSETTS RESOURCES FOR THE BLIND, 1914.

NAME AND LOCATION.	Purpose.	Special Features.	Requirements for Applicants.	Maintenance and Expenses to Applicants.	Remarks and Hours.
Boston Nursery for Blind Babies (private home and hospital for boys and girls), 147 South Huntington Avenue and 129 Jamaica Parkway, Roxbury, Mass. Superintendent, Miss Jane A. Russell.	To provide a home and hospital care for infants wholly or partially blind. To supply by training the education that the physically normal child acquires by imitation.	The nursery admits a certain number of children requiring special care to prevent blindness. In the kindergarten: games, gifts, occupations and songs, story in both hand and with materials, dancing, gymnastic exercises and outdoor sports. The kindergarten is the preparatory department of the Perkins Institution for the Blind, to which the pupils are promoted on the recommendation of the teachers. Special instruction for the deaf-blind.	Any blind or partially blind child under five years of age.	Admission may be free. When able to pay, the expense is adjusted to parents or guardians. Expense is borne by — Private contributions and by annual subscriptions. State pays per capita for State nurse wards.	The home and the hospital are open all the year.
The Kindergarten for the Blind (the lower school of the Perkins Institution; semi-public day and boarding school for children of kindergarten and primary school age), Watertown, Mass. Director, Edward E. Allen.	The care, training and education of blind children of kindergarten and primary school age.	In the kindergarten: games, gifts, occupations and songs, story in both hand and with materials, dancing, gymnastic exercises and outdoor sports. The kindergarten is the preparatory department of the Perkins Institution for the Blind, to which the pupils are promoted on the recommendation of the teachers. Special instruction for the deaf-blind.	Blind children, at least five years of age who are mentally normal.	Free to children of Massachusetts. Other States or individuals pay \$20 per pupil per annum.	Constant care and supervision in the home, classroom and playground. September to June, inclusive, with the usual school vacations. Children remain during the last summer vacation. Course about four years.
Perkins Institution and Massachusetts School for the Blind (semi-public day and boarding school for boys and girls), Watertown, near Boston. Director, Edward E. Allen.	Education of blind children and youth, to fit them for life, that they may become wholly or partly self-supporting and take their place in the community as respected and self-respecting citizens.	Elementary and high school branches. Writing: American and English penmanship, typewriting. Reading: American and English penmanship, typewriting. Library, museum, gymnasium and athletic field. Instrumental and vocal music. School chorus. Physical training and dancing. Sloyd. Diploma given for completion of academic course. Special certificates and diplomas are accepted by certain higher institutions.	To little sight to read ordinary print and sufficient intelligence to profit by instruction offered. Thirteen to nineteen years of age.	Endowed and receives State grant. Free to Massachusetts children. Other applicants are charged \$200 per annum.	September to June, inclusive, with the usual vacations. Length of course is indefinite.
State Home Teaching for the Adult Blind (under the supervision of the Perkins Institution), Watertown, near Boston, to which application may be made).	To instruct blind adults at their own homes. To reveal new resources to blind pupils. To awaken them to new activities by the assistance, special aptitude and personal service of blind teachers. To make the pupils believe in themselves and to make their households believe in them.	The instruction is given by blind teachers. Not only the pupils of these teachers, but the blind throughout the United States and Canada have the use of the large circulating library of the Perkins Institution.	Any blind person living in Massachusetts who desires the hope and inspiration of example.	Expense is borne by the State.	Depends upon the amount of State appropriation and upon the number of pupils desiring instruction.
Perkins Institution. (a) work shop department (for non-resident adult blind), 317 East Fourth Street, South Boston; (b) salesroom, 333 Boylston Street, Boston. Manager, Frank C. Bryan.	To afford a limited number of blind adults a living through work which they might not otherwise be able to command.	Special attention is given to the commercializing of products. The number of persons employed is dependent upon ability to keep them busy by piece-work the year round.	Twenty to seventy years of age. Blind adults of good character during years of efficiency.	The business is self-maintaining under guarantee of the Perkins Institution. Piecework wages paid.	The workshop department and the salesroom are open the year round.
Perkins Institution Library.	Make good reading matter available to the blind.	The United States grants free mailing privileges between libraries and readers. Volumes, 16,752. Titles, 1,272.	Free to blind readers throughout the United States and Canada.	Supported by Perkins Institution.	The library is open during the school year.
Hove Memorial Press (Perkins Institution).	See Annual Report, Perkins Institution for the Blind, for 1911, p. 21.	Makes and publishes books and music in Braille type. Sells at cost special appliances.	Schools for the blind and libraries may purchase its publications at 25 per cent. off cost prices.	Interest on the investment of a special fund.	The press is active during the school year, September to July.
Worcester Memorial Home for the Blind, 81 Elm Street, Worcester.	To provide cottage homes for the homeless blind.	Now provides for a family of 12 blind women.	Open to blind women so far as space allows, without restriction as to residence, etc.	Private contributions and board of residents.	Homes open all the year.
Massachusetts Association for Promoting the Interests of the Adult Blind.	To initiate and promote practical movements in the interest of the blind.	Maintains the James A. Woolson House, 277 Harvard Street, Cambridge, a social and industrial center for blind women. Aids in the support of the "Outlook for the Blind." Promotes the interests of the blind in various friendly ways.	Works in co-operation with State Commission.	Expense is borne by private subscriptions.	The James A. Woolson House is open the year round.
Massachusetts Commission for the Blind: — Central office and salesroom, 3 Park Street. Up one short step right. General Superintendent, Miss Lucy Wright. Applications may be made at the central office: (1) for information in regard to the various general and special agencies already organized which may be utilized for the benefit of the blind; (2) for employment; (3) for educational and industrial aid; (4) for the use of the salesroom for manufacture of home products; (5) for cooperation in care of children's cases not already provided for by the Nursery for Blind Babies and the Perkins Institution; and (6) for information in non-medical work for prevention of blindness and conservation of eyesight. Workshop, Cambridge (for men), 565 Massachusetts Avenue, rug weaving and mop making; 34 Valentine Street, broom making and chair seating. Cambridge (for women), 277 Harvard Street, native fabric weaving and chair seating. Pittsfield (for men), 10 Eagle Street, mattress making, chair seating and broom making. Lowell (for men), 139-141 Moody Street, mattress making and chair seating. Worcester (for men), 104 Front Street, mattress making and chair seating. Fall River (for men), 25 Border Street, mattress making and chair seating.	1. To prepare and maintain a register of the blind in Massachusetts. 2. To act as a bureau of information and industrial aid. 3. To find employment when possible in competition with the seeing. 4. To provide for industrial training. 5. To establish, equip and maintain workshops for the employment of blind persons. 6. To devise means for the sale and distribution of home and shop products of the blind. Shop schools, industrial classes, etc. Instruction in chair seating and mattress making given with a view to home or shop employment. Training is given in rug, mop and broom making and in art fabric weaving as vacancies occur and as the business expands. The commission may, at its discretion, make loans of tools, materials, or other equipment necessary for the chosen trade or business, either to be returned or to be paid for on easy terms. The products of home and shop industries of blind women are sold through the salesroom at 3 Park Street. Manufactured products (mops, rugs and brooms) are disposed of in regular commercial channels, through the commission's distributing agents. Shops, especially for renovating trades (chair, mattress), are dependent on local patronage.	Able-bodied blind persons, residents of Massachusetts, needing industrial training and employment. The commission requires of its apprentices: — First, that they shall take up apprenticeship with the distinct hope and determination of making practical and effective use of the trade after its mastery. Second, that they shall give their best energy to the mastering of the chosen trade. Third, that they shall persevere until the trade has been learned, and shall in no case withdraw without due cause and after consultation with the proper authorities. On the other hand, the commission reserves the right to dismiss any apprentice for sufficient reason. Fourth, that they shall conform to reasonable and customary regulations while under instruction, both in and out of shop hours.	Instruction is given without charge to citizens of Massachusetts who are qualified for the work and approved by the commission. It is expected that living or traveling expenses during apprenticeship will be borne by the apprentices or their friends when able. When necessary, however, the commission may, by vote in each case, make industrial aid appropriations to be applied to workmen. Workmen are paid piecework wages.	The central office and salesroom, 3 Park Street, are open the year round. The Manchester salesroom, 9 Bridge Street, Manchester-by-the-Sea, is open during July and August. Shops are in operation throughout the year, but limits of capital make some industries subject to seasonal shut-down or short time, according to fluctuations of trade.	

III. PREVENTION OF BLINDNESS, ADVISORY COMMITTEE, AND ADDED LEGISLATION.

A. — ADVISORY COMMITTEE, MOVEMENT FOR THE PREVENTION OF BLINDNESS.

Object. — To study the direct causes of preventable blindness; to initiate, in co-operation and consultation with medical, charitable and health authorities, such measures as may seem desirable and to influence public opinion to the end that in future no person shall needlessly be added to the blind population of this State.

Promoted by the Massachusetts Commission for the Blind, in conference with the following persons: —

Mr. JEFFREY R. BRACKETT, Director, School for Social Workers, Boston.
Dr. RICHARD C. CABOT, Boston.

Dr. FARRAR COBB, Superintendent, Massachusetts Charitable Eye and Ear Infirmary.

Miss FRANCES G. CURTIS, Massachusetts State Board of Charity.

Dr. ROBERT L. DENORMANDIE, Physician to Out-Patients, Boston Lying-in Hospital; Assistant in Obstetrics, Harvard Medical School.

Dr. GEORGE S. DERBY, Ophthalmic Surgeon, Carney Hospital.

Dr. SAMUEL H. DURGIN, Boston.

Dr. ELWOOD T. EASTON, Ophthalmic Surgeon, Massachusetts Charitable Eye and Ear Infirmary.

Mr. HENRY COPLEY GREENE, Field Agent for Conservation of Eyesight, Massachusetts Commission for the Blind.

Mr. EDWARD T. HARTMAN, Secretary, Massachusetts Civic League.

Mrs. MARY MORTON KEHEW, Treasurer, Massachusetts Association for Promoting the Interests of the Blind.

Mrs. GRACE COLEMAN LATHROP, Director, Boston Nursery for Blind Babies; President, Blind Babies' Aid Society.

Prof. HENRY C. METCALF, Member, Industrial Relations Committee of the Boston Chamber of Commerce.

Mr. WILLIAM H. PEAR, General Agent, Boston Provident Association.

Mr. LEHMAN PICKERT, President, Federation of Jewish Charities, Boston.

Dr. CHARLES P. PUTNAM, President, Associated Charities of Boston; President, Massachusetts Infant Asylum.

Dr. ANNA G. RICHARDSON, Visiting Surgeon, Vincent Memorial Hospital.

Dr. MARK W. RICHARDSON, Secretary, State Board of Health of Massachusetts.

Dr. MILTON J. ROSENAU, Department of Preventive Medicine, Harvard Medical School.

Dr. DAVID D. SCANNELL, Boston.

Dr. JOHN P. SUTHERLAND, Dean, Boston University School of Medicine.

Mr. DAVID F. TILLEY, President, Particular Council, Society St. Vincent de Paul, Boston.

Dr. HENRY P. WALCOTT, Chairman, State Board of Health of Massachusetts.

Mr. HENRY WESSLING, President, Catholic Federation of the Archdiocese of Boston.

Prof. CHARLES-E. A. WINSLOW, Department of Biology, College of the City of New York.

B. — ADDED LEGISLATION, ACTS OF 1913, CHAPTER 722.

AN ACT TO PROHIBIT THE MANUFACTURE, SALE AND USE OF GOLF BALLS CONTAINING EXPLOSIVES.

Be it enacted, etc., as follows:

SECTION 1. It shall be unlawful to manufacture or sell or knowingly to use in this commonwealth, or to have in possession for the purpose of sale, any golf ball containing any acid, fluid, gas or other substance tending to cause the ball to explode and to inflict bodily injury.

SECTION 2. Whoever violates any provision of this act shall be punished by a fine not exceeding five hundred dollars for a first offence, and for any subsequent offence by a fine not exceeding one thousand dollars, or by imprisonment for a term not exceeding one year, or by both such fine and imprisonment. [*Approved May 28, 1913.*]

IV. PENDERGAST PATENT BROOMS CIRCULAR.

The Pendergast Patent Brooms

IN THREE TYPES:

“EFFICIENCY”

“ENDURANCE”

“TRACK”

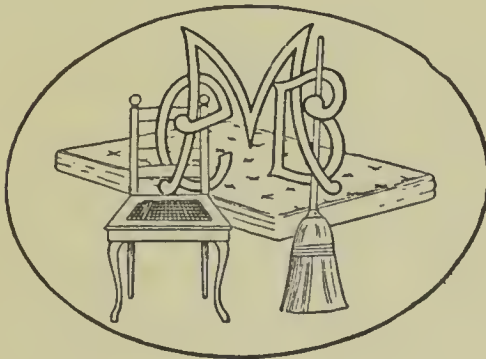
Better than corn, or rattan mixed brooms,
because :

1. THEY DO THE WORK BETTER !
2. THEY LAST LONGER !!
3. THEY ACTUALLY COST LESS !!!

MANUFACTURED BY THE

WORKSHOP FOR THE BLIND

34 VALENTINE STREET
CAMBRIDGE - - MASS.



*Look for our “M. C. B.” Trade Mark, which
guarantees all the products labeled with it*

FIBERS

In our "EFFICIENCY" and "ENDURANCE" brooms, a great variety of fibers is utilized, ranging from soft Palmyra (designated "P") and flexible Alberta ("A"), or the same material cracked ("K"), which makes it softer and lighter, through the intermediate bass ("B"), basine ("N"), and square cut bamboo ("Q") to the stiffer and harsher rattan ("R"), flat split bamboo ("S") and China reed ("D"). Furthermore, these brooms may be filled with a combination of two or more fibers in the same head, thus offering a great variety of stiff or pliable, coarse or fine, soft or harsh materials, adaptable to an endless number of purposes.



DESIGNATION

We designate our brooms by size — length of head in inches; style — letters indicating fibers used for filling, and handle attachment — numbered as already shown, thus, "No. (or size) 15SA2 ENDURANCE" is an "ENDURANCE" broom, head about 15 inches long vertically, filled with split bamboo center and Alberta fiber over this, and with our long clamp attachment for handle, as described. No. "16P4 EFFICIENCY" is our "EFFICIENCY" broom head, about 16 inches long horizontally, filled with Palmyra fiber, and mounted with a push handle.

It will be found a great convenience, both to our customers and ourselves, if the above formula is followed in ordering.

PURPOSES

EXCEPT for the sweeping of fine carpets and highly-polished floors, it would be hard to name a known purpose to which brooms can be put, for which we cannot offer just the right thing from our Pendergast Patent Brooms. We have made a special study of the needs of our customers, the requirements of the situations in which their brooms are placed, and the possibilities of our various combinations of fibers and handles, and are prepared to offer brooms especially adapted for the following purposes:

For general floor work in cotton and woollen mills, machine, wire-working, shoe and wood-working shops; for sweeping underneath looms and machinery; a splendid broom for use in engine cabs; another whose express purpose is track sweeping; for scrubbing floors in dye rooms and bleacheries, or tanks and vats in breweries; for linoleums and oilcloths; for unpolished or painted wood floors; stone or smooth cement floors; for general floor work in warehouses, waiting-rooms, platforms, decks, car floors, car barns, barber shops, hotel lobbies; for cellar bottoms, yards, sidewalks or boiler rooms; one for carriage house or garage, and entirely different type for stables, etc., etc., etc.

We are also the manufacturers of the usual type of wooden, push "STREET" brooms (not patented), filled with rattan, bass, bamboo, Alberta fiber or combinations of these. These are desirable for sweeping crossings, for pavement construction work, for large livery or boarding stables, and for moving wood, wire or metal scraps, or other very heavy litter.

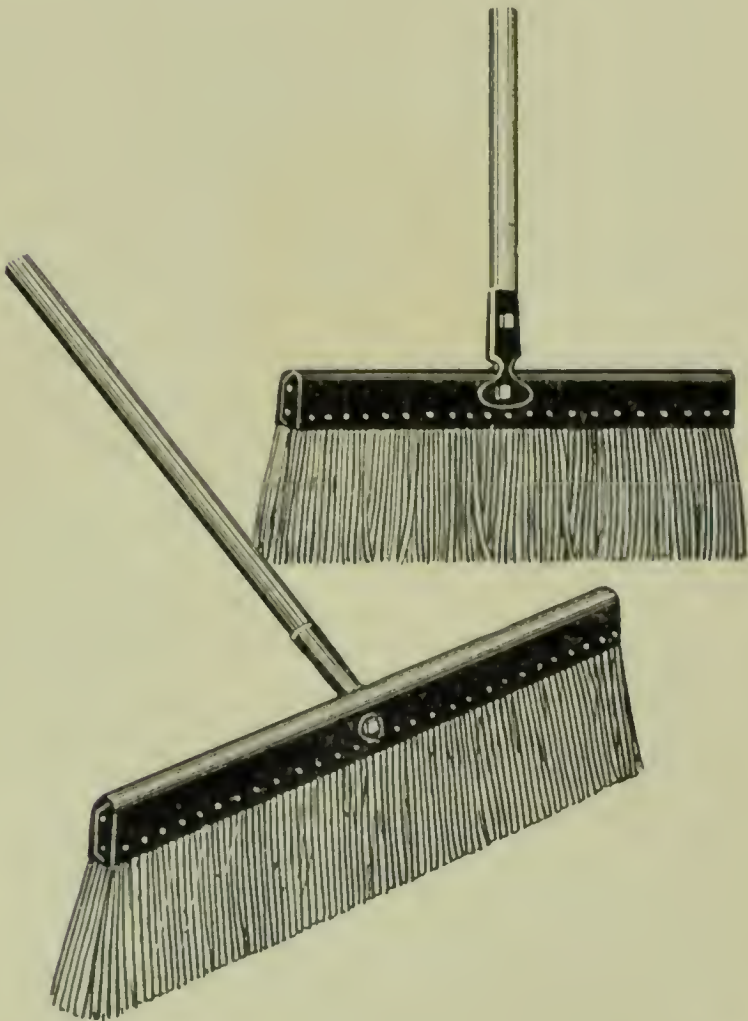
Feaze us if you can, by asking us to recommend one of our Patent Brooms for any special purpose you may name, outside the two first mentioned.

THE “EFFICIENCY” BROOM

Patented January 16, 1912

CONSTRUCTION

A sheet-iron blank and the desired fiber are both bent, hair-pin fashion, over a hardwood block, and securely nailed to it.

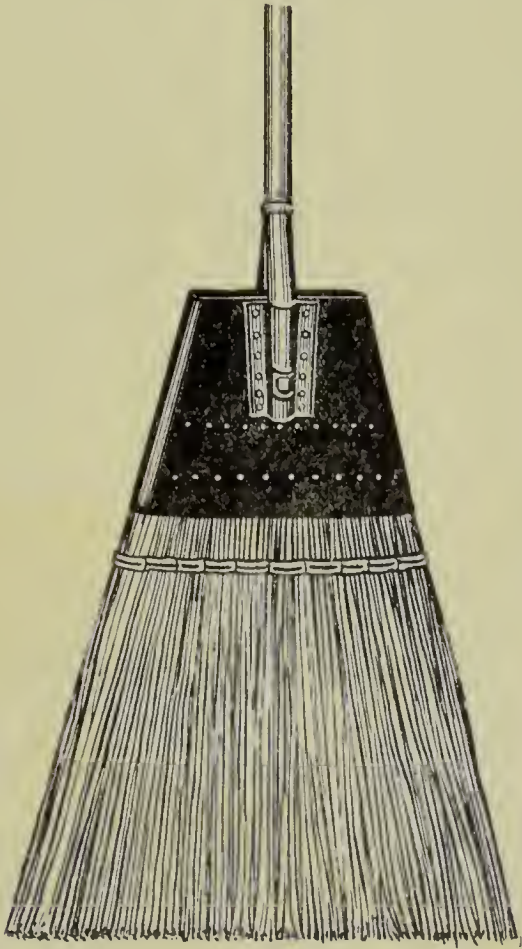


THE “ENDURANCE” BROOM

Patented May 7, 1912

CONSTRUCTION

A sheet-iron blank is formed into a sheath and nailed at one end to a hardwood block. The desired fiber is filled into the other end, secured by clinching two double rows of nails inside the sheet iron, and sewed.



HANDLES

None but No. 1 hardwood handles are used, 7-8 inch to 1 1-8 inches in diameter, and 31 inches to 54 inches in length, attached thus:

No. 1.—By a short malleable iron clamp, secured with one bolt through handle and one through head and inner block.

No. 2.—By a long malleable iron clamp, secured with one bolt through handle, one through head and inner block, and one through upper end of fiber.

No. 3.—By splitting the handle, which is forked over head and secured by sheet-iron clips, nailed through handle and head into block (on "EFFICIENCY" and "TRACK"), and in addition bolted through fiber, and bolt hole in handle prevented from splitting by semi-circular band-iron washers (on "ENDURANCE"). The split in handle is prevented from extending by a steel band.

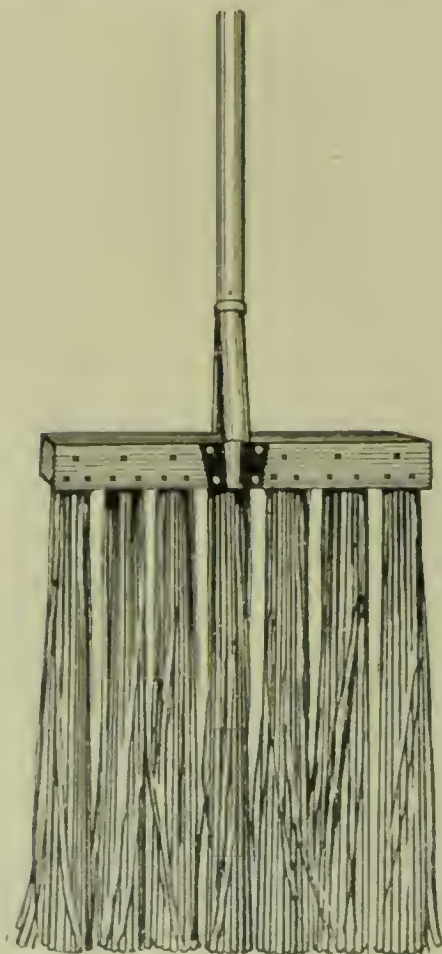
No. 4.—By an angle socket riveted to the handle and bolted to the head;—a push handle.

THE "TRACK" BROOM

Patented July 17, 1905

CONSTRUCTION

Seven holes are bored in a hardwood block, about 9 inches long, and are filled with a mixture of China reed and rattan, and securely nailed in. The block is grooved to receive and support the handle.



V. MOP CIRCULAR.



Advantages of the WUNDERMOP

Simplicity

The turn of a screw clamps the handle securely to the head of the mop.

Durability

By actual test a Wundermop will outwear at least two standard twine or four standard wick mops.

Economy

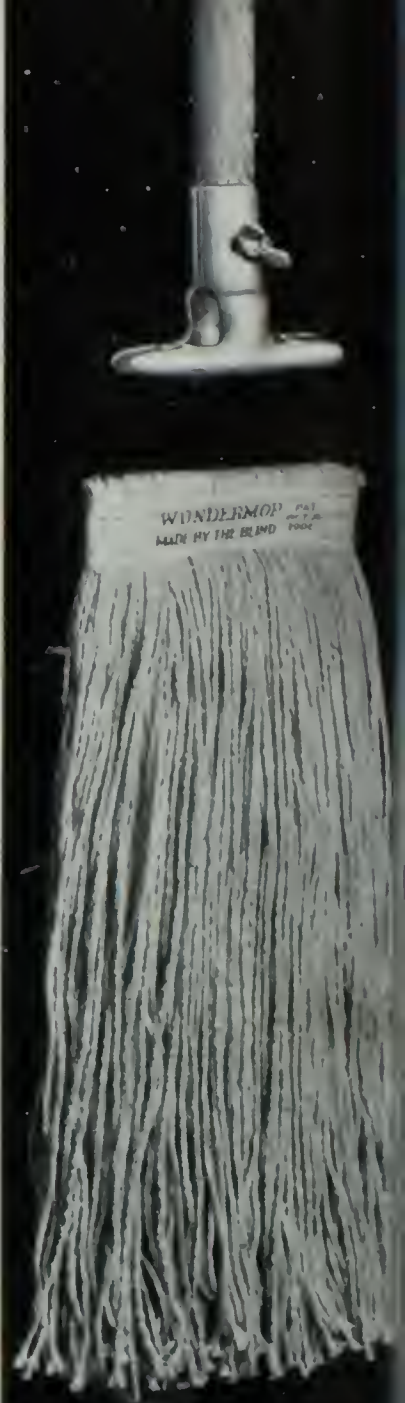
Because of their superior wearing qualities, Wundermops cost far less in the end than others.

Efficiency

The Wundermop will reach all corners without scratching, for the clamp does not extend beyond the edge.

Sanitary Feature

The mop may be readily removed from the handle and thoroughly washed as frequently as necessary.



After thorough test the Good House-keeping Institute has given its seal of approval to the Wundermop. Invented by a blind man and manufactured under patents covering both the clamp and the reinforcement, this mop embodies the best in material and workmanship.



Only high-grade cotton yarn made on special order is used. The mop is strongly reinforced internally as well as externally, as shown in the cut on next page. The clamp is rustless, provided with teeth that bite into the fabric of the mop; the handle is straight, strong, and has a fine, smooth finish. The mop is made in a variety of styles and sizes to meet all requirements. Prices on application.

WUNDERMOPS

Are manufactured by the
Massachusetts Commission for the Blind
at 686 Massachusetts Ave.
Cambridge, Mass.

Through the Industries for the Blind maintained by the Commission, employment is given to a constantly increasing group of persons whose greatest burden is not blindness but idleness.

For sale by all the Leading Stores.

Now you can wash your "Wundermop" with just the top of the mop head. Call for a demonstration.



VI. RUG CIRCULAR.



The Cambridge Rug

A HAND-LOOM PRODUCT



CAMBRIDGE RUG
SHOP, STOCK ROOM

The Cambridge Rug is a particularly artistic cotton rug, distinctive in color and design, and woven on hand looms by blind men. The warp has a breaking strength 100% greater than that of any other cotton rug. Being at least double the weight of its nearest competitor, it keeps its place on the floor, and has twice the resistance to wear. It may be cleaned satisfactorily by any reliable laundry.

CAMBRIDGE RUGS are made of new material, under strictly sanitary conditions, in shops provided for the employment of blind men, under the auspices of the

MASSACHUSETTS COMMISSION FOR THE BLIND

686 MASSACHUSETTS AVENUE - - - - CAMBRIDGE, MASS.

Regular Sizes of Cambridge Rugs

1½ x 3 feet	2½ x 5 feet	3 x 3 feet	3 x 6 feet	4 x 7 feet	7½ x 10½ feet
2½ x 4 ,,	2½ x 9 ,,	3 x 5 ,,	4 x 4 ,,	6 x 9 ,,	9 x 12 ,,

Special sizes made to order. Black warp rugs are made of any length, in any width up to eleven feet, and white warp rugs in any width up to twelve feet.



A BLIND WEAVER
MAKING RUGS

